Occupational Standards for Caribbean Vocational Qualifications (CVQ)

CCBCM30123

LEVEL 3 IN CONSTRUCTION SITE SUPERVISION

Occupational Standards for Caribbean Vocational Qualifications (CVQ)

This Qualification Package CCBCM30123 is a New Release

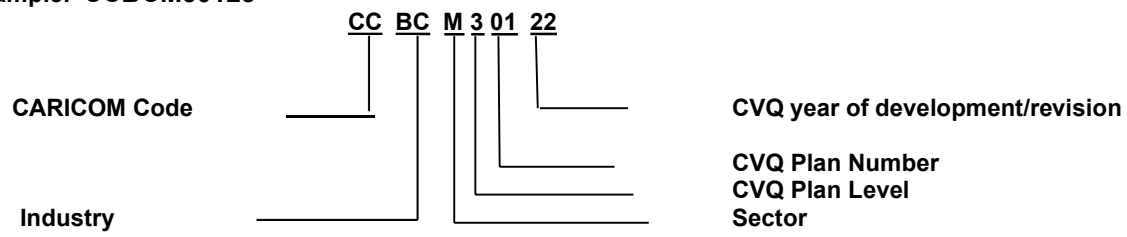
CCBCM30123 Level 3 in Construction Site Supervision

Unit Code	Unit Title	Requirement
BCGCSS0033A	Install floors in concrete and timber homes	Mandatory
BCGCSS0013A	Build and excavate foundation footings	Mandatory
BCGCSS0023A	Construct concrete stairs in residential homes	Mandatory
BCGCSS0043A	Construct concrete block masonry walls	Mandatory
BCGCSS0053A	Construct timber walls	Mandatory
BCGCSS0063A	Install roofs on timber and concrete structure	Mandatory
BCGCOR1583C	Read and interpret building plans and specifications	Mandatory
BCGBCD0053B	Prepare drawings, specifications and schedules using computeraided design (CAD) systems	Mandatory
BCMCSS0133A	Supervise the planning of on-site single rise building or constructionwork	Mandatory
BCMCSS0823B	Procure and store construction materials for low rise project	Mandatory
BCMOHS0013B	Apply Occupational Health and Safety (OH&S) requirements, policies and procedures in the construction industry	Mandatory
BCGCOR1693B	Prepare for potential disasters at the workplace	Mandatory
BCMCSS0123B	Conduct on-site supervision of building and construction projects	Mandatory
BCMQUA0013B	Supervise and apply quality standards for selection of building & construction materials	Mandatory
BCGTES0033A	Monitor concrete slump and cube test	Mandatory
BCGCMP0013B	Apply legal requirements to building and construction projects	Mandatory
THHGCS0023E	Deal with conflict situations	Mandatory
BCMCSS0023C	Co-ordinate site layout and preparation	Mandatory
BCGFLS0063C	Co-ordinate the erection and dismantling of advanced scaffolding	Mandatory
BCGSTW0933C	Apply reinforcement schedule	Mandatory
BCMCSS0073B	Co-ordinate the placement of concrete	Mandatory
BCMCSS0833A	Supervise tilt-up work	Mandatory
BCMFLS0063C	Co-ordinate servicing and maintenance of tools and equipment	Mandatory
BCGBCD0203B	Demonstrate knowledge of building services systems	Mandatory
CRICOM0013B	Apply advanced language and communication skills	Mandatory
BCGCUS0013B	Provide customer service in construction	Mandatory
CRIMAT0013B	Perform advanced mathematical computations	Mandatory
ITICOR0033B	Apply information technology to support work role	Mandatory

To obtain a Caribbean Vocational Qualification (CVQ) all Mandatory Units must be achieved.

Legend to Occupational Standard Code

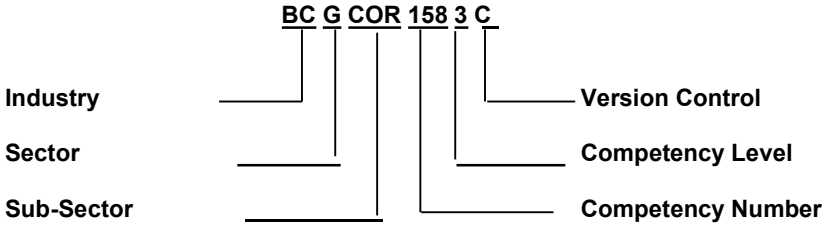
Example: CCBCM30123



Key: **CC – CARICOM** **BC – Building Construction** **M – Management**
3 – Level 3 **01 – Numerical sequence** **23 – Year developed/revised.**

Legend to Unit Code

Example: BCGCOR1583C



Key: **BC – Building Construction** **G – General** **COR – Core;158 unit #**
3 –Level 3 **C – Third version.**

Unit Key: **COR – Core; GAD – General Administration; BSB – Business Service (Business); ITI – Information Technology (Information); WHS – Work Health and Safety; THH – Tourism and Hospitality (Hospitality); CRI – Cross Industry; COM – Communication; SBM – Small Business Management; TIL – Tiling; MAS – Masonry; CAR – Carpentry; BCG – Building Construction; PNT– Painting; CSS – Construction Site Supervision; STW – Steel Work; QUA – Quality Assurance; TES – Testing.**

Occupational Standards for Caribbean Vocational Qualifications (CVQ)

This Qualification Package CCBCM30122 is a New Release

Clustering of Units

CCBCM30122 NVQ Level 3 in Construction Site Supervision

Unit Code	Unit Title	Requirement
Cluster 1	***Carryout Substructures and Superstructures Activities***	
BCGCSS0033A	Install floors in concrete and timber homes	Mandatory
BCGCSS0013A	Build and excavate foundation footings	Mandatory
BCGCSS0023A	Construct concrete stairs in residential homes	Mandatory
BCGCSS0043A	Construct concrete block masonry walls	Mandatory
BCGCSS0053A	Construct timber walls	Mandatory
BCGCSS0063A	Install roofs on timber and concrete structure	Mandatory
Cluster 2	***Apply Construction Project Management to Construction Work***	
BCGCOR1583C	Read and interpret building plans and specifications	Mandatory
BCGBCD0053B	Prepare drawings, specifications and schedules using computer aided design (CAD) systems	Mandatory
BCMCSS0133A	Supervise the planning of on-site single rise building or construction work	Mandatory
BCMCSS0823B	Procure and store construction materials for low rise project	Mandatory
Cluster 3	***Apply Quality Standards and Conduct Work Site Supervision***	
BCMOHS0013B	Apply OH&S requirements, policies, and procedures in theconstruction industry	Mandatory
BCGCOR1693B	Prepare for potential disasters at the workplace	Mandatory
BCMCSS0123B	Conduct on-site supervision of building and construction projects	Mandatory
BCMQUA0013A	Supervise and apply quality standards for selection of building & construction materials	Mandatory
BCGTES0033AB	Monitor concrete slump and cube test	Mandatory
BCGCMP0013B	Apply legal requirements to building and construction projects	Mandatory
THHGCS0023E	Deal with conflict situations	Mandatory
Cluster 4	***Supervise Concrete Work Safely***	
BCMCSS0023C	Co-ordinate site layout and preparation	Mandatory
BCGFLS0063C	Co-ordinate the erection and dismantling of advanced scaffolding	Mandatory
BCGSTW0933C	Apply reinforcement schedule	Mandatory
BCMCSS0073B	Co-ordinate the placement of concrete	Mandatory
BCMCSS0833A	Supervise tilt-up work	Mandatory
BCMFLS0063C	Co-ordinate servicing and maintenance of tools and equipment	Mandatory
BCGBCD0203B	Demonstrate knowledge of building services systems	Mandatory

Occupational Standards for Caribbean Vocational Qualifications (CVQ)

This Qualification Package CCBCM30122 is a New Release

Clustering of Units

CCBCM30122 NVQ Level 3 in Construction Site Supervision (Cont'd)

Unit Code	Unit Title	Requirement
Cluster 5	***Develop Life and Career Skills***	
CRICOM0013B	Apply advanced language and communication skills	Mandatory
BCGCUS0013B	Provide customer service in construction	Mandatory
CRIMAT0013B	Perform advanced mathematical computations	Mandatory
ITICOR0033B	Apply information technology to support work role	Mandatory

To obtain a Caribbean Vocational Qualification (CVQ), all Mandatory Units must be achieved.

ACKNOWLEDGEMENTS

The National Council on Technical and Vocational Education and Training (NCTVET) would like to thank the following for their contribution in developing these occupational standards.

Members of the Construction Site Management – Lead Group

Name	Organisation
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Everald Hemmings	Vocational Training Development Institute
Courtney Costley	Incorporated Masterbuilders Association of Jamaica (IMAJ)
Marva Blankson	University of Technology, Jamaica
Leroy Lindsay	Vocational Training Development Institute and Project Manager
Prince Lammy	Building Contractor
Burnideen Anderson	National Water Commission
Michael Heron	AREL Ltd

Country of Origin: Jamaica

Special thanks are also extended to the Consultancy team of Ms. Sasha Goodridge and Dr Grenville Phillips of Beston Consulting Limited/Walbrent College in association with Smart Kids who drafted the CVQ. We also recognize the team of coordinators responsible for this project from CDEMA, Dr. Nicole Greenidge; CANTA, Mr. Orlando Hewitt, and NCTVET, Ms. Jennel Simpson-Murray.

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PREFACE

The economic cost of disasters in the Caribbean has been substantial, exceeding US$28 billion over the last seven decades. Between 1950 and 2016 these costs surpassed $22 billion (in constant 2009 dollars)[1]. Since then, several other hazards have wreaked havoc in the region. Some of the costliest disasters include Hurricane Maria in 2017, which resulted in $1.3 billion in damages and losses in Dominica[2]. In 2019, Dorian, the strongest hurricane on record to affect The Bahamas, resulted in $3.2 billion in damages and losses[3]. In 2021, the eruption of La Soufrière resulted in $233 million in damages and losses[4] in Saint Vincent and the Grenadines. That same year, on August 14th, a 7.2 magnitude earthquake affected the southern peninsula of Haiti resulting in more than $1.6 billion in damages and losses. At least 137,500 buildings were damaged or destroyed.[5] Disasters are costly, and they also take lives. In the Caribbean, more than 250,000 people were killed from disasters over the period 1950 to 2022[6]. The August 2021 Haiti-earthquake resulted in 2,246 deaths, 12,763 injured and 329 missing persons. More than 660,000 people were affected.

Post disaster damage and loss assessments reveal that in the Caribbean, a significant portion of damage from disasters has been in the housing sector. Moreover, much of this damage could be avoided as repeatedly, the application of building codes was found to be inconsistent and there was weak to no legislation in place to address safe building. Poor building practices were evident as was the absence of sensitization to safe building practices. There are also indications that a substantial portion of the housing stock in the Caribbean has been built through the informal construction sector which does not necessarily adhere to formal building codes and standards. Moreover, many practitioners within the informal sector, in most instances, have never received formal skills training or certification. These realities provide the basis for the development of the **Caribbean Vocational Qualification (CVQ)- Building and Construction Site Supervision– Level 3 Occupational Standard** (CCBCM30123).

CCBCM30123 was approved in 2022 at the 44th meeting of the Caribbean Community (CARICOM) Council for Human and Social Development (COHSOD). It is based off the CARICOM Regional Standard CRS 10: 2023, Construction of Houses — Code of Practice (CRCP 10) which was approved as a CARICOM Regional Standard by the CARICOM Council for Trade and Economic Development (COTED) at its 56th Meeting. Whilst the *Code of Practice Standard for the Construction of Houses* outlines the specifications for constructing houses in CARICOM Member States to a common standard for strength and durability for improved resilience; the CVQ Occupational Standard which is a competency-based occupational regional qualification, establishes the skills and competencies needed to meet the CRCP 10 standard according to the CARICOM Qualifications Framework at Level 3- Independent or Autonomous Skilled Worker.

As the regional inter-governmental agency for disaster management in CARICOM, the Caribbean Disaster Emergency Management Agency (CDEMA) is the facilitator, driver, coordinator and motivating force for the promotion and engineering of Comprehensive Disaster Management (CDM) in its nineteen (19) Participating States, which encompasses the 15 CROSQ Member States. CDM requires leadership by all people and sectors in building the resilience of the region. This ethos underpins the Regional CDM Strategy and Results Framework 2014-2024. Since the Caribbean Association of National Training Authorities (CANTA[7]) is the implementation arm of the CARICOM Regional Coordinating Mechanism for Technical and Vocational Education and Training (TVET) and is also responsible for establishing the regional certification system, labelled as CVQs, CDEMA therefore partnered with them to develop the CVQ for **Building and Construction Site Supervision**. Developing this CVQ is pivotal to resilience since it provides a standard as well as basis for uniform delivery of competency-based technical and vocational education and training and certification within the Caribbean Single Market and Economy (CSME) for resilient houses to disasters. It provides a means for certifying persons practicing in the industry within the CSME.

[1] İnci Ötker and Krishna Srinivasan (2018) Bracing For The Storm, Finance & Development, March 2018, Vol. 55

[2] Government of the Commonwealth of Dominica (2017) Post-Disaster Needs Assessment Hurricane Maria

[3] ECLAC, IDB, PAHO, WHO (2019) Assessment of the Effects and Impacts of Hurricane Dorian in the Bahamas - Executive Summary

[4] Government of Saint Vincent and the Grenadines (2021) La Soufrière Volcanic Eruption Post Disaster Needs Assessment Saint Vincent and the Grenadines

[5] Government of the Republic of Haiti, Ministry of Planning and External Cooperation (2021) Post Disaster Needs Assessment in Haiti

[6] EM-DAT, Centre for Research on the Epidemiology of Disasters (CRED) / UCLouvain, Brussels, Belgium – www.emdat.be

7 Articles – CANTA (cantaonline.org)

The CVQ in Building Construction Site Supervision will be the basis for delivering training through the CANTA network of National Training Authorities and vocational training providers. This training will build capacity amongst foremen and experienced artisans and the next generation of builders, for the safe construction of houses in the region. CANTA therefore plays a critical role in advancing the regional goal of a *Safer, more resilient and sustainable CDEMA Participating States through Comprehensive Disaster Management* " and is contributing to achieving Pillar II, *Safeguarding Infrastructure,* of the "Caribbean Pathway for Building Resilience' adopted by CARICOM Heads of Government in July 2018.

The CVQ for **Building and Construction Site Supervision** was developed under the authority of CANTA and coordinated by CDEMA under the project - the Caribbean Climate Resilience Initiative (CCRI) financed by the United States Agency for International Development (USAID). The training programme now in its third phase has its genesis with the Caribbean Disaster Emergency Response Agency (CDEMA's predecessor) as the *Code of Practice for the Construction of Houses: An Instruction Manual for Foremen and Experienced Artisans* (also referred to as the Safer Building Programme) which was developed in 2005 with support from the Organisation of American States and funding from the Canadian International Development Agency (CIDA). Between 2005 and 2011-2014 under the Caribbean Hazard Mitigation Capacity Building Programme (CHAMP) and the CDM-HIP project[8] respectively. It was piloted in post-secondary institutions in Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Dominica, Grenada, Haiti, Saint Lucia, The Bahamas, and St. Kitts and Nevis.

Development of the CVQ for the training programme, was done under an overarching project implemented by CDEMA from 2021-2024 with five components that included review and revision of the Code of Practice for the Construction of Houses as a CARICOM Regional Standard, the development of an accompanying Caribbean Vocational Qualification (CVQ) to the CRCP to support institutionalisation and sustainability; offering of certified training in the rudiments of the CRCP through the CVQ; and the provision of training by vocational institutions in eight Member States, Antigua and Barbuda, Barbados, British Virgin Islands, Dominica, Grenada, Saint Lucia, St. Kitts and Nevis and St. Vincent and the Grenadines. Special acknowledgement is given to the development partners that supported the development of the CRCP, CVQ, training and marketing- the Government of Norway *Support to the Advancement of Comprehensive Disaster Management (CDM) in the CDEMA Participating* States, the United States Agency for International Development (USAID) under the Caribbean Climate Resilience Initiative (CCRI) project, the Caribbean Development Bank (CDB), and the Building the Resilience of the CARIFORUM States to Disaster Risks and Climate Change Impacts project, financed by the European Union through the 11th European Development Fund.

Safe housing is a basic need of society, and adequate housing is a human right. This CVQ is commended to training providers, artisans, building authorities, policy makers and financial institutions for the construction of safer, and more resilient housing in the Caribbean region.

[8] CDM HIP- CDM Harmonised Implementation Programme (CDM HIP) Phase 1 was a 5-year programme implemented by CDEMA through the support of CIDA and DFIID.

ABBREVIATIONS

ACM	Asbestos-containing Materials
BCA	Building and Construction Authority
BCJ	Building Code of Jamaica
CAD	Computer-Aided Design
GCT	General Consumption Tax
HT10	High Tensile Steel 10
HT12	High Tensile Steel 12
JSA	Job Safety Analysis
LISP	List Processing
MPa	Megapascal
MSDS	Material Safety Data Sheets
MSS	Machine Safety Specialist
ODPEM	Office of Disaster Preparedness and Emergency Management
OH&S	Occupational Health and Safety
PC	Pre-cast Concrete
PPE	Personal Protective Equipment
PS	Provisional Sum
PSI	Pounds Per Square Inch
SWMS	Safe Work Method Statements
SOP	Standard Operating Procedures
T10	Tensile Strength 10
T6	Tensile Strength 6
WHS	Work Health and Safety

BCGCSS0033A Install Floors in Concrete and Timber Homes

Competency Descriptor: This unit explores the knowledge and skill to install floors in concrete and timber homes.

Competency Field: Building and Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan of Work	1.1	Itemise the building materials comprising a typical ground floor, suspended reinforced concrete slab and suspended timber floor.
	1.2	Ensure the building materials meet quality assurance specifications.
	1.3	Adhere to Occupational Health and Safety (OH&S) requirements on the worksite.
	1.4	Select appropriate protective equipment and utilise on the worksite.
	1.5	Apply termite treatment as required.
	1.6	Paint formwork with oil to protect the wood.
2. Suspend and Reinforce Concrete Slab Fill	2.1	Determine span between supporting walls.
	2.2	Determine slab thickness based on the span of the supporting wall or beam.
	2.3	Install secondary rebars according to industry specifications.
	2.4	Ensure compression strength adheres to industry standards (28-day compression cube).

3.	Construct Formwork and Establish Strength of 25MPa (3600psi)	3.1	Establish slab according to specifications.
		3.2	Construct slab formwork in accordance to standards.
		3.3	Paint formwork with oil to protect the wood.
		3.4	Install T1 rebar according to span/length and thickness of the slab.
		3.5	Install spacers under and at the end or the rebar to lift rebar off of the formwork.
		3.6	Remove debris from the formwork.
		3.7	Pour the concrete according to specifications.
		3.8	Install secondary rebar according to T10 (3/8”) at 300 mm.
		3.9	Establish minimum anchorage according to specification.
4.	Suspend Timber Floor	4.1	Construct a supporting beam in accordance with standards.
		4.2	Place a damp-proof membrane, between the timber and concrete membrane in the case of a concrete foundation.
		4.3	Bolt a 3x6 or 75mm x150 mm timber sole plate sill to the concrete beam.
		4.4	Connect timber joists to the sole plate and frame using a hurricane connector according to specifications.
		4.5	Install 25 mm or 1-inch-thick tongue and groove floor planks to the joists according to specifications.
		4.6	Install joist bracing according to specifications.
		4.7	Use straps to secure the joists to the wooden frame.

5.	Clean Up	5.1	Clear area of waste materials.
		5.2	Store unused materials.
		5.3	Clean, maintain and store tools and equipment.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Floor Construction Supports:

- Concrete slabs
- Rebars HT10, HT12
- Concrete beams
- Strip footing
- Joists
- Hurricane connectors
- Timber bearers
- Sole plates
- Masonry base
- Stainless steel truss

All floor construction to be carried out to the requirements of the National Building Code or relevant country code

2. Anchor Timber Floors:

- Stainless steel truss anchor
- Timber bearer
- Hurricane connector
- Timber stud wall
- Timber joist
- Sole plate
- Masonry piers (plinths)
- Damp-proof membrane

3. OH&S Requirements to be in accordance with the Statutory Legislation and Regulations:

- Workplace environment and safety protective clothing and equipment
- Protective clothing and equipment
- Use of tools and equipment
- Handling of materials
- Working with scaffolding or placers

4. Personal Protective Equipment

- Goggles
- Hard hat
- Gloves
- Goggles
- Boots
- Dust mask
- Support belt

5. Tools and Equipment:

- Measuring tape
- Backhoe
- Hammer
- Power drill
- Levelling equipment
- Trowel
- Nails
- Power saw
- Nail gun
- String lines
- Power leads
- Shovel
- Straps

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Workplace and equipment safety and requirements
2. National Building Code regulations
3. Working drawings and specifications
4. Types of concrete and timber floor construction
5. Tools and equipment
6. Measuring and levelling
7. Trowelling
8. Calculations or material requirements
9. Timber joists span range
10. Slab thickness and reinforcement requirements
11. Cantilever rebar span length, slab thickness and main rebars
12. Timber joists sizes and span range for pine and greenheart timber
13. Joist bracing
14. Footings

Candidates should know how to:

1. Work safely
2. Organise work and termite treatment
3. Use tools and equipment
4. Measure and level
5. Communicate effectively
6. Install footings

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable toworkplace operations.
2. Show compliance with organisational policies and procedures including Quality Assurance requirements.
3. Adopt and carry out correct procedures prior to and during levelling and boning processes.
4. Apply safe and effective operational use of tools, plant and equipment.
5. Indicate particular attention to accurately read and record staff readings.
6. Show particular care of equipment in handling, setting up and storing on completion.
7. Interactively communicate with others to ensure safe and effective site operations.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment,relevant workplace procedures and organisational requirements.

Competency in this unit may be assessed through access to:

1. Levelling equipment appropriate to levelling processes.
2. Appropriate tools and associated equipment to support levelling processes.
3. Suitable work area appropriate to levelling activities.
4. Suitable plans/drawing and specifications/instructions.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Project.

(4) Context of Assessment

This unit may be assessed on-the-job, off the-job or through a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGCSS0013A Build and Excavate Foundation Footings

Competency Descriptor: This unit deals with the skills and knowledge needed to build three types of foundations for walled and timber houses.

Competency Field: Building and Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and Prepare Work	1.1	Adhere to OH&S requirements.
	1.2	Adhere to quality assurance requirements for materials being used.
	1.3	Identify materials and quantity requirements for the footing of a residential home according to building code requirements.
	1.4	Organise equipment and materials for the completion of the job.
	1.5	Select appropriate protective equipment and utilise on the worksite.
	1.6	Apply termite treatment as required.
	1.7	Identify the different types of footings for a masonry-walled and timber house.
	1.8	Identify the type of soil at the base of the footing.
	1.9	Determine the materials needed to erect the footing, thewidth of the footing being based on the soil type.
2. Install Strip Footings	2.1	Place mass concrete (1:3:6) blinding.
	2.2	Erect formwork to fit the strip footing.
	2.3	Place reinforcement in the formwork.
	2.4	Install spacers to the bottom and sides of foundation.
	2.5	Remove debris from within forms.
	2.6	Apply a release agent to the formwork surface.

		2.7	Mix concrete according to specifications.
		2.8	Pour concrete into frame and level according to specification.
		2.9	Trowel finish concrete and allow to cure.
3.	Install Pad Footings	3.1	Use pad footing guidelines based on size, strength and reinforcement to install footing.
		3.2	Erect formwork to fit pad after excavation.
		3.3	Place reinforcement, including column starter bars, in the formwork
		3.4	Install tie-beam reinforcement.
		3.5	Install placers to the bottom and sides of reinforcement.
		3.6	Remove any debris from within the forms.
		3.7	Apply a release agent to the formwork surface to be in contact with the concrete.
		3.8	Pour and level concrete.
		3.9	Trowel finish concrete and allow to cure.
4.	Slab-on-Ground Footings	4.1	Describe a slab-on-ground foundation and when it is to be used.
		4.2	Articulate the geometry and requirements of a slab-on-ground footing with masonry walls andtimber framed walls.
		4.3	Explain the rebar layout for ground footing, rebar layout with masonry walls and rebar layout for timber framed walls according to specifications.
		4.4	Excavate foundation to a good bearing layer.
		4.5	Apply termite treatment to the soil under the slab and footings.
		4.6	Install fill well compacted in layers.
		4.7	Cut trenches for slab thickenings in a straight line and on a slope.

		4.8	Install plumbing waste, electrical, communications and security pipes in the fill.
		4.9	Erect formwork according to specifications.
5.	Timber Posts	5.1	Excavate a hole according to specifications (1.2 m/4 feet).
		5.2	Apply termite treatment to the side and top of post.
		5.3	Install the timber post.
		5.4	Pour concrete to stabilise timber post.
		5.5	Compact and level concrete.
		5.6	Trowel and cure concrete.
		5.7	Install braces on the posts according to specifications.
6.	Clean Up	6.1	Remove all braces, placers, scaffolding or props safely.
		6.2	Clear area of all materials and waste.
		6.3	Dispose of waste materials in an environmentally responsible manner.
		6.4	Clean, service and store tools and equipment.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Quality Assurance Requirements:

- Quality of materials
- Attention to specification of the task/work
- Control and handling procedures
- Use and maintenance of equipment
- Storage of equipment and materials

2. Tools and Equipment:

- Measuring Tape
- Backhoe
- Trowel
- Plate compactor
- Wheelbarrow
- Dumper or truck chute
- Hammer
- Props
- Spacers
- Scaffolding

3. Personal Protective Equipment:

- Boots
- Hard hat
- Safety goggles
- Gloves
- Dust mask
- Jacket
- Steel-tip shoes

4. Types of Footings, Sizes and Requirements:

- Strip footing sizes and reinforcement
- Pad footing sizes and reinforcement
- Concrete columns and sizes and reinforcement
- Timber post

5. Information Sources:

- Site drawings
- Building codes
- Safe work site procedures for working with concrete and establishing footings
- Calculations and Measurement

6. Concrete:

- Mixing
- Pouring
- Troweling
- Curing

7. Posts

- Erection of Posts

8. Information Sources

- Site drawings
- Building codes
- Safe work site procedures for working with concrete and establishing footings
- Calculations and measurements

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidate should know and understand:

1. Reading plans
2. Measurements and calculations
3. Rebars
4. Reinforcements
5. Working with concrete
6. Termite treatment
7. Trenches

Candidate should be able to:

1. Building rebars
2. Reinforcements
3. Posts

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable toworkplace operations.
2. Show compliance with organisational policies and procedures, including quality assurance requirements.
3. Adopt and carry out correct procedures prior to and during levelling and boning processes.
4. Apply safe and effective operational use of tools, plant and equipment.
5. Indicate particular attention to accurately read and record staff readings.
6. Show particular care of equipment in handling, setting up and storing on completion.
7. Interactively communicate with others to ensure safe and effective site operations.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Levelling equipment appropriate to levelling processes.
2. Appropriate tools and associated equipment to support levelling processes.
3. Suitable work area appropriate to levelling activities.
4. Suitable plans/drawings and specifications/instructions.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Project.

(4) Context of Assessment

This unit may be assessed on-the-job, off-the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGCSS0023A Construct Concrete Stairs in Residential Homes

Competency Descriptor: This unit explores the skills, knowledge and attitudes required to construct stairs in a residential home, and applies to individuals working in masonry in the construction industry.

Competency Field: Building and Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and Prepare Work	1.1	Follow OH&S requirements for workplace environment and the construction of stairs.
		1.2	Determine the stair geometry.
		1.3	Check materials and quantities against job drawings and specifications.
		1.4	Select appropriate personal protective equipment (PPE).
		1.5	Select tools and equipment consistent with the requirements of constructing concrete steps.
		1.6	Perform checks on tools and equipment to determine serviceability and any faults in the equipment or tools.
		1.7	Ensure faults or hazards are effectively and efficiently dealt with before the start of work.
2.	Set Out Steps	2.1	Establish stair layout.
		2.2	Determine design considerations such as safety, proportions of human body, provision for aged and physically challenged.
		2.3	Determine the waist and lap dimensions of the stairs.
		2.4	Determine the span thickness between supporting walls.
		2.5	Calculate waist, lap and individual steps based on stair geometry and span between supporting wall dimensions.

3.	Laying Bricks & Form Steps	3.1	Build formwork for step out dimensions based on specifications ensuring the steps are square, level and plumb.
		3.2	Install rebars according to slab thickness.
		3.3	Mix mortar according to specifications.
		3.4	Pour concrete evenly to formwork.
		3.5	Trowel concrete to ensure steps are even and smooth.
4.	Clean Up	4.1	Remove any debris or unused materials.
		4.2	Dispose of any unwanted material safely.
		4.3	Store/stack unused materials.
		4.4	Clean, maintain and store tools and equipment.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Quality assurance requirements:

    - Stair geometry specifications are adhered to
    - Quality of materials
    - Use and maintenance of equipment
    - Attention to the specifications of the work
    - Performance checks before equipment is used

2. OH&S requirements to be in accordance with the statutory legislation and regulations:

    - Protective clothing and equipment
    - Use of tools and equipment
    - Handling of materials
    - Working with scaffolding or placers
    - Workplace environment and safety
    - Protective clothing and equipment

3. Personal Protective Equipment:
    - Goggles
    - Hard hat
    - Gloves
    - Goggles
    - Boots
    - Dust mask
    - Support belt

4. Tools and Equipment:

    - Measuring tape
    - Hammer
    - Power drill
    - Levelling equipment
        - Spirit level
        - Dumpy level
    - Trowel
    - Concrete mixer
    - Wheelbarrows
    - Shovels
    - Nails
    - Power saw
    - Nail gun
    - String lines
    - Plumb lines
    - Line pins
    - Line blocks
    - Mortar boards
    - Buckets
    - Mason’s square
    - Angle grinder
    - Rebars

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. OH&S requirements for the workplace, especially for stairs
2. Working drawings and specifications
3. Stair geometry
4. Design considerations such as provision for the aged and physically challenged
5. Proportions of the human body
6. Slab thickness and reinforcement
7. Materials needed for stair construction
8. Carpentry-construction of the formwork
9. Steel/rebar
10. Steel bending or laying for concrete stairs
11. Building codes, standards and regulations
12. Tools and equipment
13. Plastering techniques
14. Levelling techniques
15. Concrete curing process
16. Concrete compression strength

Candidates should be able to:

1. Organise the task of creating stairs
2. Working safely without causing injury
3. Using tools and equipment
4. Plastering of concrete
5. Levelling of concrete
6. Laying of rebars/plating of rebars
7. Mixing concrete
8. Set out work
9. Communication
10. Calculating quantities and span between supporting walls
11. Reading and interpreting drawing

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with thePerformance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable to workplace operations.
2. Show compliance with organisational policies and procedures including Quality Assurance requirements.
3. Adopt and carry out correct procedures prior to and during levelling and boning processes.
4. Apply safe and effective operational use of tools, plant and equipment.
5. Indicate particular attention to accurately read and record staff readings.
6. Show particular care of equipment in handling, setting up and storing on completion.
7. Interactively communicate with others to ensure safe and effective site operations.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisational requirements.

Competency in this unit may be assessed through access to:

1. Levelling equipment appropriate to levelling processes.
2. Appropriate tools and associated equipment to support levelling processes.
3. Suitable work area appropriate to levelling activities.
4. Suitable plans, drawings, specifications and/or instructions.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Project

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGCSS0043A Construct Concrete Block Masonry Walls

Competency descriptor: This unit deals with the skills, knowledge and attitudes required to prepare and construct concrete masonry walls.

Competency Field: Building and Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Plan and Prepare Work	1.1	Follow OH&S requirements for workplace environment and the construction of masonry block walls.
	1.2	Order and check materials according to job specifications and requirements.
	1.3	Select appropriate personal protective equipment.
	1.4	Select tools and equipment consistent with the requirements to build block masonry walls.
	1.5	Perform checks on tools and equipment to determine the serviceability and any faults in the equipment and tools.
2. Lay Concrete Block Wall	2.1	Construct the floor with wall starter bars extending 600 m (2 ft) above the floor level.
	2.2	Install wall vertical reinforcement.
	2.3	Lay courses of blocks according to specifications.
	2.4	Place horizontal rebars between courses.
	2.5	Link courses with raked joints.
	2.6	Grout the courses with rebars according to specifications.

3.	Install Concrete Stiffeners	3.1	Install concrete stiffeners as required according to specifications in an unbraced wall.
		3.2	Calculate concrete stiffener quantity according to length of wall.
		3.3	Install vertical rebars according to specifications.
		3.4	Install T6 links according to specifications.
4.	Install Beams	4.1	Install beam formwork according to specifications.
		4.2	Install beam rebars.
		4.3	Install spacers.
		4.4	Install hurricane truss anchors.
5.	Perform Concrete Work	5.1	Pour concrete into formwork.
		5.2	Compact Concrete.
		5.3	Level Concrete.
		5.4	Trowel Concrete.
		5.5	Cure Concrete.
		5.6	Plaster the wall.
6	Perform Clean Up	6.1	Remove debris or unused material.
		6.2	Dispose of any unwanted materials safely and in an environmentally friendly manner.
		6.3	Stack and store unused materials.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and mayinclude, but not be limited to:

1. Workplace environment and safety:

   - Protective clothing and equipment
   - Use of tools and equipment
   - Handling of materials
   - Working with scaffolding or placers

2. Personal Protective Equipment:

   - Googles
   - Hard hat
   - Gloves
   - Boots
   - Dust mask
   - Support belt
   - Overalls

3. Masonry Units:

   - Concrete blocks
   - Rebars
   - Grout

4. Tools and Equipment:

   - Measuring tape
   - Hammer
   - Trowel
   - Rubber mallet
   - Spirit level
   - Concrete mixer
   - Wheelbarrows
   - Shovels
   - Hack saw
   - Masonry saw
   - Trowels
   - Plumb rule
   - String line
   - Mortar boards
   - Sponge
   - Damp-proof membrane & blinding
   - Jointing tools
   - Rebar bending equipment
   - Concrete vibrator

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Working drawing and specifications
2. Curing of foundation
3. Block laying
4. Termite treatment
5. Grouting
6. Utility pipes
7. Tools and Equipment
8. Health and safety standards
9. Workplace and equipment safety requirements including regulations, codes and standards
10. Building Code standards
11. Beams and rebars
12. Starter bars
13. Formwork
14. Plastering
15. Waterproofing external walls
16. Curing concrete
17. Concrete stiffeners
18. Span of lintel
19. Beam size
20. Rebar
21. Links
22. Concrete compression strength

Candidates should know how to:

1. Work safely
2. Use hand and power tools suitable for construction foundation walls
3. Calculating quantities of material
4. Organising and preparing work
5. Laying block work
6. Plastering blockwork
7. Laying damp proofing membrane
8. Carpentry skills –Installing formwork
9. Waterproofing external walls
10. Pouring concrete
11. Leveling concrete
12. Trowel finishing concrete
13. Curing concrete
14. Installing utility pipes
15. Install stiffeners

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable to workplace operations.
2. Show compliance with organisational policies and procedures including Quality Assurance requirements.
3. Adopt and carry out correct procedures prior to and during levelling and boning processes.
4. Apply safe and effective operational use of tools, plant and equipment.
5. Indicate particular attention to accurately read and record staff readings.
6. Show particular care of equipment in handling, setting up and storing on completion.
7. Interactively communicate with others to ensure safe and effective site operations.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisational requirements.

Competency in this unit may be assessed through access to:

1. Levelling equipment appropriate to levelling processes.
2. Appropriate tools and associated equipment to support levelling processes.
3. Suitable work area appropriate to levelling activities.
4. Suitable plans/drawing and specifications/instructions.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Project

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGCSS0053A Construct Timber Walls

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to prepare timber walls.

Competency Field: Building and Construction

ELEMENTS OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and Prepare Work	1.1 Follow OH&S requirements for workplace environment and the construction of masonry block walls.
	1.2 Order and check materials according to job specifications and requirements.
	1.3 Select appropriate personal protective equipment.
	1.4 Select tools and equipment consistent with the requirements to build timber wall studs and walls.
	1.5 Perform checks on tools and equipment to determine the serviceability and any faults in the equipment and tools.
	1.6 Organise termite treatment.
2. Construct Wall Timber Plates	2.1 Assemble wall plate, studs, trimmers and cripple studs in accordance with specifications.
	2.2 Install noggins on flat rows at 1.350m.
	2.3 Fix wall squared and braced to walls in accordance with specifications.

3.	Install Timber Beam	3.1	Construct the sole plate or timber to support the studs.
		3.2	Install vertical studs and corner studs according to specifications.
		3.3	Install vertical studs at the corners.
		3.4	Install studs at the sides of windows and doors.
		3.5	Install a top plate.
		3.6	Install diagonal bracing and noggins.
		3.7	Install utility pipes and junction boxes.
		3.8	Install hurricane straps to support rafters.
4.	Install Wall Cladding	4.1	Install stud wall cladding to job specifications and requirements.
		4.2	Check cladding to ensure all components are secure and complete.
5	Clean Up site	5.1	Clean area and dispose of waste material safely and in an environmentally friendly manner.
		5.2	Store and stack unused material.
		5.3	Clean, maintain and store tools and equipment.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include but not limited to:

1. OH &S Requirements to be in accordance with the statutory legislation and regulations:

    - Workplace environment

        - Protective clothing and equipment
        - Use of tools and equipment
        - Handling of materials
        - Working with scaffolding or placers

    - Personal protective equipment:

        - Goggles
        - Hard hat
        - Gloves
        - Boots
        - Dust mask
        - Support belt
        - Overalls

2. Tools and Equipment:

    - Measuring tape
    - Hammer
    - Nails
    - Screws
    - Spirit level
    - Hurricane straps
    - Plumb rule
    - String line
    - Calculator

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Working drawing and specifications
2. Termite treatment
3. Grouting
4. Utility pipes
5. Tools and equipment
6. Health and safety standards
7. Workplace and equipment safety requirements including regulations, codes and standards
8. Building Code standards
9. Beams and studs
10. Starter bars
11. Cladding
12. Wood/lumber
13. Studs
14. Bracing and noggins
15. Hurricane straps
16. Timber frame
17. Wall junction
18. Importance of maintaining of standards
19. Conservation
20. Cleanliness

Candidates should know how to:

1. Work safely
2. Use hand and power tools suitable for construction foundation walls
3. Calculating quantities of material
4. Organising and preparing work
5. Carpentry skills –installing formwork
6. Installing a wall timber frame
7. Installing a wall junction
8. Installing hurricane straps

METHOD OF ASSESSMENT

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Construct timber walls using a variety of recognized methods.
2. Quiz on knowledge components such as health and safety standards, foundation building codes or standards.
3. Oral questioning.
4. Observation on worksite.
5. Picture or video evidence.

BCGCSS0063A Install Roofs on Timber and Concrete Structure

Competency Descriptor: This unit explores the skills, knowledge and attitudes needed to install a roof on masonry walls and timber framed walls.

Competency Field: Building and Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and Prepare work	1.1	Adhere to quality assurance requirements.
		1.2	Follow OH&S requirements for workplace environment and the construction of masonry block walls.
		1.3	Order and check materials according to job specifications and requirements.
		1.4	Select appropriate personal protective equipment.
		1.5	Select tools and equipment consistent with the requirements to build timber wall studs and walls.
		1.6	Perform checks on tools and equipment to determine the serviceability and any faults in the equipment and tools.
2.	Install Roof on Masonry Walls	2.1	Erect falsework to support the ridge.
		2.2	Install ridge members including any hips.
		2.3	Install rafters.
		2.4	Install hurricane connectors.
		2.5	Install concrete to fill the space between the rafters.
		2.6	Install tongue and groove close boards or plywood.
		2.7	Install purlins (battens).

3.	Install Cladding	3.1 Install batten or pine purlins spaced at 600 Mm (24”) and according to specifications.
		3.2 Determine purlin strength and spacing specifications.
		3.3 For metal cladding, install a damp-proof membrane, rubberised paint or rubberised tape on top of purlin.
4.	Perform Clean Up Activities	4.1 Clean area and dispose of waste material safely and in an environmentally friendly manner.
		4.2 Store and stack unused material.
		4.3 Clean, maintain and store tools and equipment.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. OH&S Requirements to be in accordance with the Statutory Legislation and Regulations:
    - Quality assurance requirements
        - Workplace operations and procedures
        - Quality materials
        - Control of handling procedures
        - Use and maintenance of equipment
        - Attention to the specification of work
2. Workplace environment and safety:
    - Protective clothing and equipment
    - Use of tools and equipment
    - Handling of materials
    - Working with scaffolding or placers

3. Personal Protective Equipment:

- Goggles
- Hard hat
- Gloves
- Boots
- Dust mask
- Support belt
- Overalls

4. Tools and Equipment

- Measuring tape
- Hammer
- Nails
- Screws
- Spirit level
- Hurricane straps
- Plumb rule
- String line
- Calculator
- Cladding

5. Termite treatment applied according to safety and industry standards. Materials:

- Treated pine purlins
- Cladding
- Roof cladding connectors
- Thick plywood (16mm (5/8”)
- Rafters (16”/24”)
- Damp-proof membrane (when using metal cladding)
- Hurricane connectors
- Wood (greenheart and pine)

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Working drawings and specifications
2. Termite treatment
3. Grouting
4. Utility pipes
5. Tools and equipment
6. Health and safety standards
7. Workplace and equipment safety requirements including regulations, codes and standards
8. Building Code standards
9. Beams and studs
10. Starter bars
11. Cladding
12. Wood/lumber
13. Studs
14. Bracing and noggins
15. Hurricane straps
16. Timber frame
17. Wall junction
18. Importance of maintaining standards
19. Conservation
20. Cleanliness

Candidates should know how to:

1. Work safely
2. Use hand and power tools suitable for the construction of foundation walls
3. Calculating quantities of material
4. Organising and preparing work
5. Carpentry skills –installing formwork
6. Installing a wall timber frame
7. Installing a wall junction
8. Installing hurricane straps

METHOD OF ASSESSMENT

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Demonstration of skills such as laying of blocks, plastering, pouring of concrete, leveling of concrete and trowel finishing concrete and installing formwork.
2. Quiz on knowledge components such as health and safety standards, foundation building codes or standards.
3. Oral questioning.
4. Observation on worksite.
5. Picture or video evidence.

BCGCOR1583C: Read and Interpret Building Plans and Specifications

Competency Descriptor:

This unit deals with the skills, knowledge and attitudes required to read and interpret plans and specifications applicable to low rise residential and commercial projects in order to inform estimation, planning and supervisory activities. This unit of competency supports the needs of site managers, forepersons, estimators, builders, managers and other building and construction industry personnel responsible for ensuring the currency of plans and specifications and for reading and interpreting these for application to estimation, planning and related supervisory activities.

Competency Field: Construction Site Management

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify Types of Drawings and Symbols Used in Construction	1.1	Identify the purpose and advantage of different types of drawings.
		1.2	Identify different aspects of drawings.
		1.3	Identify and apply commonly used symbols and abbreviations on drawings.
		1.4	Identifying and interpret common building and construction terms used on drawings.
2.	Locate and Identify Key Featureson a Site Plan and Drawings	2.1	Identify building site from location drawings.
		2.2	Identify true north and building orientation from details provided on site plan.
	.	2.3	Identify key features of site plan.
		2.4	Identify key features of plans, elevations and sections.
		2.5	Identify client requested variations to standard plans on drawings.
3.	Read, Interpret Building Plans and Specifications	3.1	Identify provisional sum (PS) and prime cost (PC) values and apply correctly.

3.2 Identify customer variations to standard specifications.

3.3 Apply correct interpretations of essential elements to estimation and communicate the planning and supervisory tasks.

3.4 Identify building codes or standards affecting the work to be undertaken.

3.5 Identify key features of products included in the specification design, purpose, aesthetics and cost relationships.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Types of drawings:

- CAD drawings
- Construction information
- Detailed amendment drawings
- Details of:
  - Roads and pathways
  - Parking areas
  - Boundaries and landscaping
  - Initial sketches
  - Preliminary and final drawings and plans
  - Presentation drawings
- Service details, such as:
  - Wiring
  - Piping ducts and waste disposal
  - Sketch plans
  - Working drawings

2. 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
- Storm water disposal
- Trees and vegetation

3. Aspects of drawings include:

   - Elevations
   - Plans
   - Sections
   - Views in isometric projection and perspective

4. Specification includes:

   - Levels and survey information
   - Materials lists
   - Performance data and material technical data
   - Schedules of quantities
   - Stress, load and bearing calculations

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Building and construction practices
2. Internal documentation systems
3. Regulatory approvals processes and time frames
4. Relevant state or territory building and construction codes, standards and regulations
5. Types of building and construction drawings and drawing perspectives
6. Types of building and construction industry contracts

Candidates should know how to:

1. Consult with industry professionals
2. Apply numeracy skills to calculate labour hours and costs and material quantities and costs
3. Translate documented requirements into on-site activities
4. Transfer structural features from two-dimensional to three-dimensional formats
5. Identify types of drawings and symbols used in construction
6. Read and interpret various building plans and specifications

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. 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.
2. 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.
3. Identify and incorporate customer variations to agreed plans and specifications.
4. Correctly interpret essential elements and apply these to estimation, planning and supervisory tasks.
5. Communicate effectively specification changes to organisational personnel and confirm variations with the client.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevantworkplace procedures and organisational requirements.

Competency in this unit may be assessed through access to:

1. Documentation that should normally be available in either a building or construction office.
2. Relevant codes, standards and government regulations.
3. Office equipment, including calculators, photocopiers and telephone systems.
4. Computers with appropriate software to view 2-d CAD drawings, run costing programmes and print copies.
5. Technical reference library with current publications on measurement, design, building constructionand manufacturer's product literature.
6. Suitable work area appropriate to the construction process.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGBCD0053B: Prepare Drawings, Specifications and Schedules Using Computer Aided Design (CAD) Systems

Competency Descriptor: This unit deals with the skills, knowledge and attitudes required to prepare drawings, specifications and schedules for conventional residential structures using the computer-aided systems.

Competency Field: Building & Construction– Building Drawings

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Prepare CAD Environment	1.1	Clarify purpose of drawing, type and other relevant instructions and/or information clearly.
	1.2	Verify the methods and media selected for developing and producing drawings are suitable for the drawing required and resources.
	1.3	Customise computer system variables to suit standard operating procedure.
	1.4	Customise menu to suit standard operating procedure.
	1.5	Customise drawing parameters to standard operating procedure.
	1.6	Develop macros to standard operating procedure.
	1.7	Rectify incomplete and inconsistent input information appropriately.
2. Prepare Drawings	2.1	Create drawings using the full capability of the available software system.
	2.2	Link drawing entities to database attributes to suit job requirements.
	2.3	Create detailed views of construction elements and components using various scales to meet job requirements.

		2.4	Complete drawings and associated graphical materials accurately and comply with design information and relevant documentation.
		2.5	Justify deviations from standard conventions and are indicated clearly.
		2.6	Obtain checks and approvals regarding content and presentation of drawings.
		2.7	Save files in various formats to standard operating procedure.
		2.8	Verify that reproduction and record-keeping are consistent with quality assurance procedures.
3.	Read and Interpret Plans and Specifications	3.1	Identify and interpret inter-relationships between plans and specifications.
		3.2	Identify location and interpretation of key information according to drawing and specifications.
		3.3	Interpret correctly detailed views of construction elementsand components.
4.	Prepare Schedules	4.1	Verify that the selected format of schedules meets production process, methods of measurement and intended use.
		4.2	Measure dimensions accurately from source documentation according to standard requirements.
		4.3	Complete and reference data correctly to drawings by specification labelling using appropriate standards.
		4.4	Check and correct quantities for congruence; balancing checks completed.
		4.5	Check quantities and descriptions for and amended where necessary for completeness and syntax.
5.	Prepare Specifications	5.1	Select the type of specification document suitable for the purpose.
		5.2	Confirm that the specification does not include duplicate and contradictory information and stipulation.

	5.3	Confirm the specification is consistent with other design documentation.
	5.4	Identify base specification information on application and current source information.
	5.5	Use standardised technical clauses to define quality, type and standard of the materials, products and workmanship required.
	5.6	Check that the specification is concise, structured logically, referenced and cross-referenced accurately.
	5.7	Check that the specification of materials, products and workmanship conforms to recognised standards and codes of practice.
6. Prepare Performance Specifications	6.1	Identify responsibilities for the specified area accurately.
	6.2	Analyse appropriate functional performance requirements.
	6.3	Recognise the specification of performance to standards and codes of practice.
	6.4	Support the performance requirements by data which assists in identifying acceptable solutions.
	6.5	Obtain checks and approvals regarding content and presentation of specifications.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Purpose of drawing:

   - Locate position
   - Show relationships
   - Define shape
   - Communicate design
   - Procurement – materials, labour
   - Contract definition
   - Construction/production

2. Types of drawings:

   - Location plans
   - Sketches (building – internal/external, components, landscaping
   - Working - construction, implementation
   - Schedules (doors, windows, finishes
   - Presentation drawing: 2-D/3-D, 1 point, 2 point parametric or perspective techniques, birds and standards, worms' eye

3. Construction drawings:

   - Location drawings
   - Floor and roof plans, elevations, building sections details, etc.

4. Construction elements::

   - Substructure
   - Superstructure
   - Wall (hollow, solid)
   - Floor (in-situ concrete, precast concrete suspended, timber suspended)
   - Roof (pitched, flat)

5. Construction components:

   - Door-set (external, internal)
   - Window (casement, sliding sash, fixed light)
   - Bathroom/kitchen fixtures and fittings
   - Handrails, stairs, elevator, etc.

6. Installation of components:

   - Door-set in structural opening
   - Window frame in structural opening
   - Glazing (fixed,/operable), storefronts
   - Handrails, mouldings, cooler boxes, freezers

7. Connection of two construction elements:

   - Superstructure to superstructure
   - Floor to wall
   - Eaves to roof

8. Drafting equipment:

   - Computer equipped with CAD systems printer/plotter

9. Completion checks of drawing:

- Accuracy
- Correct scales
- Line density
- Annotation
- North point
- Title panel (block)
- Layout of drafted elements/sub-components
- Presentation
- Completeness

10. Drawing conventions:

- Detailing standards
- Codes of practice
- Local industry conventions

11. Types of schedules:

- Schedules of rates
- Schedules of work and materials
- Database and spreadsheet

12. Use of schedules:

- Procurement
- Contract
- Production

13. Types of specification:

- Original document
- Industry/practice standards

14. Purpose of specification:

- Obtain consents
- Procurement
- Contract
- Production

15. Source of specification information may include:

- Design information
- Statutory requirements
- Building standards
- Codes of practice
- Technical literature

16. Construction elements may include:

- Substructure/foundation
- Skylight/dormers, etc
- Wall (hollow, solid), partition (demountable)
- Floor (in-situ concrete, precast concrete suspended, timber suspended)
- Roof (pitched, flat)
- Super structure (columns, stairs, elevator shafts, plumbing. Electricity, etc.

17. File formats:

- IGES
- DXF
- HPGL

18. Checks and approval of drawing:

- Format
- Presentation
- Accuracy
- Technical content
- Completeness
- Referencing
- Cross-referencing
- Status
- Correlation with associated documents
- Positioning
- Shape
- Dimensions
- Tolerances
- Composition
- Fixing
- Annotation
- Symbols
- Conventions

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Ergonomics problems relating computer workstations
2. Safety precautions to be observed when using computer equipment for CAD applications
3. The function of CAD commands that are used to produce 2-D and 3-D drawings
4. Macro and lists identification
5. Procedure for creating 2-D and -3D drawings
6. Display commands used to create 2-D and 3-D drawings
7. Theories, principles and methods to:
   - Produce schedules in formats to meet requirements and uses
   - Measure, reference and clarify dimensions, data quantities and descriptions from required sources
   - Identify checks and approvals relating to content and presentation of schedules
8. Types of schedules
9. Standard requirements for measurement of schedules
10. Types of input information for schedules
11. Syntax for quantities and descriptions
12. Forms of specification for schedule
13. Specification development
14. Selection and drafting of technical clauses to meet requirements
15. Structure, reference and cross-reference specifications
16. Standards for specifications

Candidates should know how to:

1. Practice safety techniques for using computer workstation
2. Set up computer workstations to produce drawings
3. Manipulate and manage computer files
4. Use computer hardware and CAD software commands to produce 2-D and 3-D drawings
5. Apply knowledge of macro and list programming to troubleshoot macro and list routines
6. Select format for preparing schedule
7. Take measurement and record dimensions for preparing schedules
8. Complete and reference data for schedule preparation
9. Select suitable specification document
10. Prepare specifications
11. Obtain checks and approval of prepared specifications

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects and Evidence

Evidence should include a demonstrated ability to:

1. Practice safety techniques appropriate to computer usage.
2. Demonstrate basic computer skills.
3. Set drawing parameters.
4. Create drawing entities.
5. Edit drawing entities.
6. Use drawing aids.
7. Manage layers and line types.
8. Operate output devices.
9. Use symbol libraries.
10. Use macro/lisp capabilities.
11. Develop two-dimensional drawings.
12. Develop three-dimensional drawings.
13. Prepare at least two types of schedules.
14. Prepare specifications.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevantworkplace procedures and organisational requirements.

Competency in this unit may be assessed through access to:

1. Access to computer aided drafting equipment and work station.
2. Drafting, schedule and specification information.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Project

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate

BCMCSS0133A: Supervise the Planning of On-Site Single Rise Building or Construction Work

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to supervise the planning process and organisation of on-site building or construction work projects up to and including medium rise commercial and wide span buildings. This unit of competency supports builders, related construction industry professionals and senior managers within building and construction firms responsible for supervising the planning of on-site building or construction work for medium rise building and construction projects.

Competency Field: Construction Site Supervision

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Appraise the contractual documentation and delegate the planning of operational requirements	1.1 Obtain copies of building approvals and conditions relating to the medium rise building or construction project.
	1.2 Review contracts determine any unusual aspects of construction and use of materials or penalty provisions.
	1.3 Identify possible design problems and seek the attention of project consultants.
	1.4 Review the availability of subcontractors and their suitability to meet job requirements specific to medium rise projects.
.	1.5 Review the availability of materials and conditions and authorise purchases.
	1.6 Establish access to the site within requirements and locate on-site accommodation in appropriate location.
	1.7 Establish and maintain contact with relevant statutory authorities controlling construction work.
2. Initiate strategies and delegate the implementation of medium rise construction operations	2.1 Implement and maintain the resources supply system for controlling and recording materials entering and leaving the site.

	2.2 Manage procedures for recording and paying for the hire of plant equipment and authorising payment.
	2.3 Establish OH&S and rehabilitation procedures, includinghazard and risk management.
	2.4 Plan and implement procedures for the removal of existing services and hazardous materials in accordance with regulatory requirements.
	2.5 Establish procedures required for the control of multiple projects.
3. Supervise the preparation of project schedules.	3.1 Plan and execute in sequence construction operations.
	3.2 Manage the entering of data operations into an appropriate scheduling system for analysis.
	3.3 Establish and review project's critical path and manage the project schedule to incorporate and document as required with new projects.
	3.4 Develop strategies for avoiding and overcoming project delays.
	3.5 Advise management of cost-benefits and implications of providing overtime payments.
4. Confirm the provision of all resources required for project	4.1 Facilitate adjustments to the project timeframe to take account of anticipated delays.
	4.2 Identify and arrange temporary services and site accommodation needs as required.
	4.3 Confirm plant requirements, site location and installation dates.
	4.4 Determine and document on-site personnel and labour requirements.
5. Review existing on-site buildingsor structures	5.1 Review and record condition of existing buildings or structures to be retained, and structures on adjacent site boundaries.

	5.2 Submit copies of reports to adjacent building owners prior to commencing construction work.
6. Supervise staff and maintain an effective work environment	6.1 Overview the maintenance of the project site or sites and allocate staff resources according to organisational, regulatory and project needs.
	6.2 Monitor the activities of contract planning personnel and maintain an effective work environment.
	6.3 Employ effective human resource practices and policies which maximise performance and productivity.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. 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
2. 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

3. 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

4. Project Administration Processes:

    - Contract variations
    - Defect identification and rectification determining project progress inspections
    - Obtaining required certification progress payments

5. Medium rise licensing classification with reference to :

    - Class 1 and 10 construction
    - Class 2 and 3 to a maximum of 3 storeys
    - Class 4 to 9 to a maximum of 3 storeys, (not including Type A construction):

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Building and construction industry contracts
2. Building and construction industry subcontracting system
3. Building or construction practices in on and off-site management
4. Construction planning process
5. Contract documentation, quantities establishment, rates and costs related to payments and claims
6. Human resource principles and practices
7. Relevant licensing arrangements
8. Relevant building and construction codes, standards and government regulations for medium rise building projects
9. Workplace safety requirements

Candidates should know how to:

1. Apply evaluation skills to review and evaluate documentation and processes and recommend changes or improvements
2. Apply communication skills to:
   - Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
   - Discuss problems with consultants
3. Manage staff
4. Read and interpret:
   - Contracts, project schedule and reports
   - Documentation from a variety of sources
   - Use and interpret non-verbal communication
5. Use language and concepts appropriate to cultural differences
6. Apply written skills to:
   - Document project schedule and resource requirements
   - Maintain records
   - Record relevant information
7. Apply management skills, to include the ability to delegate tasks and supervise staff to achieve planning outcomes
8. Apply planning skills to enable the effective planning of projects, processes and strategies which maximize the efficiency and cost-effectiveness of building or construction contracts, and which effectively organize and use available resources on Construction sites

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Translate contract requirements into construction plans and processes.
2. Delegate planning tasks.
3. Apply construction planning processes that effect desired outcomes.
4. Develop strategies that effectively maximize resource use.
5. Establish and maintain a workplace environment representative of good management practice.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organization requirements.

Competency in this unit may be assessed through access to:

1. Available in either a building or construction office.
2. Relevant codes, standards and regulations.
3. Office equipment, including calculators, photocopiers and telephone systems.
4. Computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies.
5. A technical reference library with current publications on measurement, design, building construction and manufacturers' product literature.
6. A suitable work area appropriate to the process.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Project.
6. Observation of work process.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCMCSS0823B: Procure and Store Construction Materials for Low Rise Project

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to supervise the systems through which materials are typically selected, acquired and stored on site for projects described by the National Building Code or relevant country code as low rise building or construction work (low rise' licensing classification with reference to Class 1 and 10 construction andClass 2 to 9 with a gross floor area not exceeding 2000 square metres, not including Type A or Type B construction).

Competency Field: General Construction – Site Storage

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Identify and Evaluate the Properties of Building Materials	1.1 Identify suitable materials commonly used in the region for low rise buildings for a given building system.
	1.2 Identify properties of materials, their quality and the compatibility and non-compatibility of different materials.
	1.3 Identify environmental impacts of different materials.
	1.4 Identify impact of allowable tolerances on the conversion of naturally occurring materials.
	1.5 Identify tolerances for installing and assembling materials and check in regard to the nature of the work being performed and the requirements of relevant construction industry standards.
2. Select Suitable Building Materials for Application	2.1 Select materials that are structurally adequate and appropriate for the building system specified in the contract.
	2.2 Select materials for their safety; required fire resistance rating; suitability to the application, durability, serviceability and cost effectiveness; and compliance with standards.
	2.3 Consider short and long-term degradation of materials in relation to the building's proposed life cycle.
	2.4 Evaluate alternative materials and select if specified materials are unavailable or unsuitable.

	2.5 Selection of materials for use is finalised in accordance with contractual requirements and in consultation with relevant professionals and the client.
3. Supervise the Acceptance, Safe Handling and Storage of Materials on Site	3.1 Determine limitations and effects of transportation on materials and components and act in the case of potentially damaging circumstances.
	3.2 Handle materials correctly and safely on site using appropriate equipment and safe work practices.
	3.3 Store materials in accordance with manufacturer specifications and in compliance with relevant standards.
	3.4 Implement processes for inspecting all materials delivered on site for naturally occurring and/or manufactured defects before installation.
	3.5 Notify personnel of actions to be taken in the case of defects caused by incorrect installation, application or placement.
	3.6 Preserve timber and ferrous and non-ferrous metals used in the construction process and protect, using established methods.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Materials Commonly Used in Low Rise Buildings:

    - Cements
    - Ceramics
    - Concrete
    - Engineered timber products
    - Flooring
    - Framing
    - Glass
    - Masonry units
    - Mortars
    - Paints and coatings
    - Plasterboard
    - Plaster glass
    - Roofing
    - Structural steel

2. Low Rise Buildings Are Described Within the BCA As:

    - Class 1 and 10
    - Class 2 to 9 with a gross floor area not exceeding 2000 square metres, not including Type A or Type B construction

3. Material suitability is identified by a range of processes:

    - Analysing reports, manufacturer specifications or other reference material regarding the suitability of new and environmentally efficient and sustainable building material technologies with reference to the BCA requirements
    - Arranging industry standard, external quality tests or inspections and provision of results as necessary
    - Arranging relevant, industry standard, on-site quality tests for products to be used in low rise buildings
    - Referencing external reports and manufacturer specifications
    - Refusing to accept substandard or out of specification materials
    - Seeking expert appraisals from relevant Industry professionals, including architects, designers and engineers

4. Selection of building materials includes:

    - Arranging for expert advice as necessary to confirm or refute material options
    - Identifying materials from specifications and drawings
    - Identifying specifications and standards described in contract documents
    - Selecting and ordering materials that meet those requirements

5. Materials are handled correctly and safely by:

   - Allocation of space for on-site storage of materials
   - Confirming products or materials are as ordered and signing off delivery documentation
   - Ensuring safe unloading and handling of construction materials
   - Ensuring safe use of hazardous materials and complying with statutory or regulatory requirements
   - Ensuring correct materials are delivered to correct site
   - Providing adequate on-site security of materials
   - Undertaking quality checks within the competence of the individual

6. Tools and Equipment:
   - Brooms
   - Hoses
   - Shovels
   - Rakes
   - Wet and dry industrial vacuum cleaners
   - Wheelbarrows
   - Pallet trolley
   - Materials hoists
   - Forklifts
   - Pickaxes
   - Tamping machine
   - Pavement saw
   - Hand roller

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Alternative materials that can be specified in construction projects
2. Building and construction materials and technologies
3. Building code (class 1 and 10 and class 2 to 9 with a gross floor area not exceeding 2000 square metres, but not including type a or type b construction)
4. Construction supply processes
5. Construction and contracting equipment and its use
6. Environmental effects on various building and construction materials
7. Relevant building and construction codes, standards and regulations
8. Testing procedures for construction materials
9. Workplace safety requirements

Candidates should know how to:

1. Analyse and report preparation
2. Apply safe work practices and materials handling
3. Apply numeracy skills to workplace requirements
4. Demonstrate communication skills to:
   - Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
   - Communicate with manufacturers and suppliersof materials
   - Provide advice and information to regulatory authorities
5. Read and interpret:
   - Contracts
   - Drawings and specifications
6. Supervision of small teams

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Identify suitable building and construction materials specified by the project or contract.
2. Use effective verbal and written communication with manufacturers and suppliers of materials.
3. Effectively and efficiently test materials to maintain quality standards on site.
4. Maintain effective sampling and record-keeping processes.
5. Safely handle and store materials.
6. Comply with organisational and legislative requirements.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Documentation that should normally be available in either a building or construction office.
2. Relevant codes, standards and regulations.
3. Office equipment, including calculators, photocopiers and telephone systems.
4. Computers with appropriate software to view 2-D CAD drawings, run costing programmes and print copies.
5. A technical reference library with current publications on measurement, design, building construction and manufacturers' product literature.
6. A suitable work area appropriate to the construction process.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Observe work processes.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate

BCMOHS0013B: Apply OH&S Requirements, Policies and Procedures in the Construction Industry

Competency Descriptor:

This unit deals with the skills, knowledge and attitudes required to carry out OH&S requirements through safe work practices at any on or off-site construction workplace. It requires the performance of work in a safe manner through awareness of risks and work requirements, and the planning and performance of safe work practices with concern for personal safety and the safety of others.

Competency Field: Occupational Health and Safety

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Identify and Assess Risks.	1.1 Identify hazards in the work area and report to designated personnel.
	1.2 Assess safety risks in the work area and report to designated personnel.
	1.3 Adhere to safe work practices, duty of care requirements and safe work instructions for controlling risks.
	1.4 Make contribution to OH&S, hazard, accident or incident reports in accordance with workplace procedures and OH&Sand relevant information.
2. Identify Hazardous Materials and Other Hazards on Work Sites	2.1 Identify hazardous materials on a work site correctly and, if appropriate, handle and use according to organisation procedures.
	2.2 Apply measures for controlling risks and construction hazards.
	2.3 Identify hazardous materials that have safety implications for self and other workers using appropriate signs and symbols.
	2.4 Identify asbestos-containing materials on a work site and report to designated personnel.

3.	Plan and Prepare for Safe Work Practices	3.1 Identify correct personal protective equipment and clothing for each area of construction work in accordance with organisation procedures.
		3.2 Select tools, equipment, materials in conjunction with the organisation of tasks in accordance with organisation procedures.
		3.3 Determine required barricades and erect signage at the appropriate site location.
		3.4 Identify material safety data sheets (MSDS), and job safety analysis (JSA) and apply safe work method relevant to the work to be carried out.
4.	Apply Safe Work Practices	4.1 Perform tasks in a manner that is safe for operators, other personnel and the general community in accordance with legislative requirements, and organisation policies and procedures.
		4.2 Use plant and equipment guards in accordance with manufacturer specifications, work site regulations and industry standards where applicable.
		4.3 Apply procedures and relevant authorities for reporting hazards, incidents and injuries.
		4.4 Recognise prohibited tools and equipment in areas with identified asbestos.
		4.5 Follow work site safety signs and symbols.
.		4.6 Clear and maintain work site area to prevent and protect self and others from incidents and accidents and to meet environmental requirements.
5.	Follow Emergency Procedures.	5.1 Identify designated personnel in the event of an emergency for communication purposes.
		5.2 Adhere safe workplace procedures for dealing with accidents, various types of fire and other emergencies including identification or use, if appropriate, of fire equipment within scope of responsibilities.
		5.3 Carry out emergency response and evacuation procedures when required.
		5.4 Carry out emergency first aid treatment of minor injuries correctly and record details of any treatment and report accurately to designated personnel as soon as possible.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Hazards:

    - Chemical spills
    - Electrical safety work in confined spaces
    - Excavations, including trenches
    - Falling objects
    - Fires
    - Gases
    - Hazardous materials
    - High or very low temperatures
    - HIV and other infectious diseases
    - Liquids under pressure
    - Manual handling
    - Moving machinery and equipment
    - Noise, dust and vapours
    - Overhanging beams
    - Protrusions
    - Sharp equipment
    - Traffic
    - Ultraviolet (UV) radiation
    - Unplanned collapse
    - Working at heights

2. Safe work practices:

    - Day to day observation of OH&S policies and procedures
    - Emergency procedures
    - Risk assessment
    - Use of basic firefighting equipment
    - Relate to:
        - Access to site amenities, such as drinking water and toilets
        - General requirements for safe use of plant and equipment
        - General requirements for use of personal protective equipment and clothing
        - Housekeeping to ensure a clean, tidy and safer work area
        - No drugs and alcohol at work
        - Preventing bullying and harassment
        - Smoking in designated areas
        - Storage and removal of debris

3. Designated personnel to be contacted in case of an emergency, accident, fire or to report a risk such as identification of ACM:

    - Designated safety officers, determined by the enterprise, who have undertaken specific safety response training
    - Managers or other senior personnel
    - Personnel competent and/or licensed in the safe handling of asbestos
    - Supervisors

4. Duty Of Care Requirements:

    - Legal responsibility under duty of care to do everything reasonably practicable to protect others from harm
    - Relevant state and territory OH&S requirements and include employers and self-employed persons, persons in control of the work site, construction supervisors, designers, manufacturers and suppliers, construction workers, subcontractors and inspectors
    - May relate to:
        - Own responsibilities to comply with safe work practices, including activities that require licences, tickets or certificates of competency

5. Incidents May Include:

- Accidents resulting in personal injury ordamage to property
- Near misses or dangerous occurrences that do not cause injury but may pose an immediate and significant risk to persons or property, and need to be reported so that action can be taken to prevent recurrence, for example:
  - Breathing apparatus malfunctioning to the extent that the user's health is in danger
  - Collapse of the floor, wall or ceiling of a building being used as a workplace
  - Collapse or failure of an excavation more than 1.5 metres deep (including any shoring)
  - Collapse or partial collapse of a building or structure
  - Collapse, overturning or failure of the load bearing of any scaffolding, lift, crane, hoist or damage to or malfunction of any other major part of the plant
  - Electric shock
  - Electrical short circuit, malfunction or explosion
  - Uncontrolled explosion, fire or escape of gas, hazardous substance or steam

6. OHS Legislative Requirements M*ay* Include:

- Construction industry OH7S standards and guidelines
- Duty of care
- Health and safety representatives, committees and supervisors
- JSA and safe work method statements
- Licences, tickets or certificates of competency
- National Code of Practice for Induction Training for Construction Work
- National safety standards
- OH&S and welfare Acts and regulations
- Safety codes of practice

7. Information:

    - Diagrams or sketches
    - Emergency situation contacts
    - Evacuation plans
    - Instructions issued by authorised organisational or external personnel
    - Labels
    - Manufacturer specifications and instructions
    - Memos
    - MSDS
    - Organisation work specifications and requirements
    - Plans and specifications
    - Regulatory and legislative requirements,such as Acts, regulations and codes of practice
    - Relevant standards
    - Reports of near misses or accidents
    - Safe work procedures or equivalent documentation
    - Safety meeting minutes
    - Signage
    - Verbal or written and graphical instructions
    - Work bulletins
    - Work schedules

8. Hazardous materials:

    - ACM
    - Cleaning chemicals, including those in pressurised containers
    - Glues
    - Insulation materials
    - Solvents
    - Treated timber products

9. Measures for controlling risk or minimising hazards in accordance with the hierarchy of control:

    - Elimination
    - Substitution
    - Isolation
    - Engineering control
    - Administrative control
    - Personal protective equipment

10. Signs and symbols:

    - Emergency information signs (exits,equipment, first aid)
    - Fire signs (location of fire alarms and firefighting equipment)
    - Hazard identification, facility or location signs
    - Regulatory signs (e.g., prohibition, mandatory and limitation or restriction), such as hazard signs (danger and warning)
    - Safety tags and lockout (danger tags, out of service tags)
    - Site safety, directional, traffic and warning signs and symbols

11. Asbestos-Containing Materials are Identified:

    - Includes recognising common types of ACM that may be found in construction materials and buildings
    - Covers asbestos rope/fabrics, asbestos cement sheeting, asbestos cement piping and lagging on pipes, bituminous waterproof membrane, fire doors, electrical switchboards, millboard, and sheeting under ceramic or vinyl floor tiles in wet areas

12. Personal Protective Equipment:

    - Aprons
    - Arm guards
    - Caps
    - Dust mask/respirators
    - Ear muffs/plugs
    - Gloves
    - Hard hats
    - High visibility retro reflective vests
    - Jackets
    - Overalls
    - Safety glasses/goggles
    - Steel capped boots
    - UV protective clothing and sunscreen

13. Tools and Equipment:

    - Firefighting equipment
    - First aid kit
    - Ladders and work platforms
    - Personal protective equipment

14. Materials:

    - First aid materials suitable for emergency
    - First aid treatment of minor injuries

15. Prohibited Tools and Equipment That Cannot Be Used Near Identified ACM:

    - High-speed abrasive power and pneumatic tolls, high pressure water cleaners, compressed air or abrasive blasting
    - Any vacuum cleaning equipment not specifically designed for safe work with asbestos

16. Environmental Requirements are to Cover Workplace Quality Management:

    - Clean-up protection
    - Stormwater protection
    - Waste management

17. Types of Fire:

    - Electrical
    - Chemical
    - Gas
    - Mechanical
    - Paper
    - Wood or natural fire

18. Fire Equipment:

    - Breathing apparatus
    - Fire extinguishers
    - Fire hydrant and hoses
    - Fire reel
    - Fire truck
    - Manual firefighting instruments, such as fire blankets

19. Emergency Response and Evacuation Procedures:

    - Emergencies, such as fire, toxic and/or flammable vapours emission, vehicle/mobile plant accident, structural collapse, chemical spill and injury to personnel
    - Extinguishing fires, organisational first aid requirements and evacuation

20. Asbestos-Containing Materials Are Reported to:

    - Person in control of the workplace as set out in the relevant Asbestos Management Code

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Asbestos management code prevention of exposure
2. Basic first aid procedures
3. Common construction industry terminology
4. Common workplace safety hazards and risks and procedures for reporting theseto designated personnel
5. Construction industry communications equipment and use
6. Construction industry health and safety signage
7. Emergency response and evacuation procedures
8. JSA and safe work method statements
9. MSDS
10. OH&S hierarchy of control and role of OH&S committees and representatives
11. Relevant legislation, regulations and workplace requirements relating to OH&S, including hazard reduction and personal safety, including duty of care responsibilities, workers' compensation and injury management requirements

Candidates should know how to:

1. Recognise OH&S hazards, including asbestos and take all opportunities to alleviate safety problems in a variety of construction work sites and environments
2. Deal calmly and effectively with any potential safety problems and work closely with other team members and supervisors to ensure safe working conditions are maintained
3. Determine and report hazards and risks
4. Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
5. Follow instructions
6. Read and interpret:
   - MSDS, JSA and safe work method statements
   - other relevant documentation
7. Use language and concepts appropriate to cultural differences
8. Use and interpret non-verbal communication, such as hand signals

Candidates should know and understand: (Cont'd)

12. Safe manual handling techniques
13. Safe work practices in normal working environment
14. Safety equipment, policies and requirements for working in confined spaces and at height, including on roofs
15. Tools and equipment prohibited for use near identified asbestos-containing materials (ACM)
16. Types of fires and basic firefighting equipment
17. Types, possible location and risks of ACM, including serpentine and amphibole groups, and their use in common building materials
18. Types, purpose and use of construction industry personal protective equipment and clothing
19. Workplace and equipment safety requirements

Candidates should know how to: (Cont'd)

11. Identify and accurately reporting to appropriate personnel any faults in tools, equipment or materials
12. Work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical an

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Correctly locate, interpret and apply relevant information, standards and specifications
2. Comply with a site safety plan, organisational policies, OH&S regulations and legislation applicable to workplace operations, including quality requirements
3. Correctly identify ACM and policies and procedures for reporting this to designated personnel
4. Effectively communicate and work safely with others
5. Apply general procedures for responding to incidents and reporting hazards and injuries
6. Select and use firefighting equipment to extinguish a simulated mechanical fire
7. Evacuate a site through simulated response to an emergency, complying with workplace procedures

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. An induction procedure and requirement
2. Realistic tasks or simulated tasks covering the mandatory task requirements
3. Relevant specifications and work instructions
4. Tools and equipment appropriate to applying safe work practices
5. Support materials appropriate to activity
6. Workplace instructions relating to safe work practices and addressing hazards and emergencies
7. Material safety data sheets
8. Research resources, including industry related systems information

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Project
6. Case study

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGCOR1693B: Prepare for Potential Disasters at the Workplace

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to identify risks that could damage or destroy a collection of materials and develop plans and take actions to eliminate or at least mitigate such risks. It applies to individuals working in organizations holding significant collections. This unit applies to preparations for potential disasters at the workplace.

Competency Field: Building & Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Conduct Risk Assessment	1.1 Prepare a disaster mitigation plan.
	1.2 Identify the facility's approach to the core elements of emergency management.
	1.3 Identify potential disasters and facility weaknesses.
	1.4 Identify the implications of any action to mitigate the disaster, including the threats posed.
	1.5 Identify and cost potential solutions to risks.
	1.6 Identify actions that could be taken immediately to minimise the effects of potential disasters.
	1.7 Get specialist advice where necessary.
	1.8 Analyse suggested response to potential disasters.
2. Develop a Disaster Plan	2.1 Describe the threats posed to the collection from potential disasters and the likely responses.
	2.2 Identify different models of disaster planning.
	2.3 Conduct consultation with specialists where necessary.
	2.4 Identify and describe threats that can be minimised.

		2.5 Produce a written disaster plan, which conforms to the requirements of local and national disaster agencies.
		2.6 Outline potential rescue opportunities in the event of a disaster and the procedures that should be followed.
		2.7 Itemise all the resources that may be required along with details of where they are located.
		2.8 Prepare an outline of the command structure in the event of a disaster.
		2.9 Identify secure off–site locations for critical information and resources.
3.	Implement Disaster Readiness Measures	3.1 Implement actions that could be taken immediately to minimise the effects of potential disasters.
		3.2 Get specialist advice where necessary.
		3.3 Provide and maintain a store of resources as per disaster preparedness requirements.
		3.4 Communicate disaster plans to those with responsibilities under the plan.
		3.5 Conduct simulated disasters to test the effectiveness of the disaster plan.

RANGE STATEMENTS

The Range Statement relates to the unit of competency. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Items to Consider in Determining the Probability of a Specific Disaster:

    - Geographic location
    - Topography of the area
    - Proximity to major sources of power and bodies of water
    - Accessibility to facilities within the organisation
    - Utility companies' ability to provide uninterrupted services
    - History of the area's susceptibility to natural hazards

2. Potential Hazards (likely threats that could arise inside or outside the organisation):

    - Natural hazards
    - Technical hazards
    - Human hazards

3. Ensuring the Safety of:

    - Customers, employees, and other personnel during and following a disaster

4. Natural Hazards:

    - Internal flooding
    - External flooding
    - Internal fire
    - External fire
    - Seismic activity (earthquake)
    - High winds
    - Tornado
    - Hurricane
    - Epidemic
    - Tidal wave

5. Technical Hazards:

   - Power failure/fluctuation
   - Heating
   - Ventilation or air conditioning failure
   - Malfunction or failure of CPU
   - Failure of system software
   - Failure of application software
   - Telecommunications failure
   - Gas leaks
   - Communications failure
   - Structural collapse

6. Human Threats:

   - Robbery
   - Bomb threats
   - Embezzlement
   - Extortion
   - Burglary
   - Vandalism
   - Terrorism
   - Civil disorder
   - Chemical spill
   - Sabotage
   - Explosion
   - Biological contamination
   - Hazardous waste
   - Vehicle crash
   - Work stoppage

7. Preparing for the Protection of Facilities, Equipment, and Vital Records:

   - Establishing emergency committee and response team
   - Planning considerations
   - Systems of protection
   - Equipment and material requirements
   - Mitigation
   - Facility shutdown
   - Records preservation

8. Emergency Management Elements:

   - Direction and control
   - Communications
   - Life safety
   - Property protection
   - Community outreach
   - Recovery and restoration
   - Administration and logistics

9. Systems of Protection which detect abnormal situations, provide warning, and protect property:

    - Fire protection systems
    - Lighting protection systems
    - Water-level monitoring systems
    - Overflow detection devices
    - Automatic shutoffs
    - Emergency power generation systems

10. Actions to be taken into consideration:

    - Upgrade facilities to withstand shaking from earthquake or high wind
    - Construct flood walls or other flood protection devices
    - Install fire sprinkler systems
    - Install storm shutters for all exterior doors and windows
    - Securing light fixtures and other items that could fall or shake loose
    - Move heavy breakable objects to low shelves
    - Attach cabinets and files to low walls or bolting them together
    - Secure and cover electrical/ electronic equipment such as computer, with waterproof materials
    - Move workstation away from large windows
    - Shutdown equipment/facility
    - Remove limbs of trees likely to be severed and cause damage during passage of hurricane
    - Record preservation

11. Specialist Advice from:

    - Structural engineer
    - Architect
    - Government zoning and building personnel
    - Fire Department personnel
    - Utility company's expert
    - ODPEM
    - Police
    - Health Care personnel
    - Electrical engineer
    - Mechanical engineer

12. Established procedures for:

    - Fighting fires
    - Containing material spills
    - Closing or barricading doors and windows
    - Shutting down equipment
    - Covering or securing equipment
    - Moving equipment to a safe location
    - Identifying sources of backup
    - Designating personnel to specified role(s) in the process
    - Getting materials to carry out protection procedures
    - Keeping materials handy for emergency use only
    - Training of personnel

13. Records for preservation:

    - Engineering plans and drawings
    - Product lists and specifications
    - Database information
    - Personnel files
    - Formulas and trade secrets

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Disaster prevention/response techniques
2. Potential disasters that could occur to property and facilities
3. The appropriate service intervals for electrical equipment and building systems
4. Where specialist advice could be sought
5. The limit of personal responsibility in a disaster situation
6. The level of risk associated with different disaster responses
7. The vulnerability of the collection to different disasters
8. How the responses to one disaster can create further problems
9. The implications of disasters occurring out of hours
10. What makes up a disaster
11. The information that should be kept securely off-site
12. Why the command structure would be different in the event of a disaster
13. Where to source rescue equipment and expertise
14. How all contingencies have been explored
15. How the simulations have tested the effectiveness of the plan
16. What resources and rescue materials would be required
17. Why disaster simulations are important

Candidates should know how to:

1. Establish an emergency committee
2. Identify and assess potential threats to facilities and equipment
3. Establish emergency response teams
4. Gather materials and equipment for emergency response
5. Identify priority restoration work
6. Communicate to all levels of people

EVIDENCE GUIDE

The Evidence guide advises on assessment and must be read with the Performance Criteria, Required Skills and Knowledge, Range Statements and The Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Apply working knowledge of facility's approach to the core elements of emergency management.
2. Identify participants and establish emergency response committee and response teams.
3. Identify and assess potential threats to property and facilities.
4. Establish list of potential threats and circulate to relevant personnel.
5. Prepare an inventory list of emergency supplies and their location and gather equipment and materials.
6. Establish a chain of command for coordinating the recovery effort, based upon tasks to be performed.
7. Identify, contact and seek specialised help where required.
8. Prepare detailed plan to prevent or reduce potential damage to property and equipment.

(2) Resource Implications

Resource implications may include access to tools and equipment, relevant workplace procedures, and organisation requirements.

Competency in this unit may be assessed through access to:

1. A registered provider of assessment services.
2. Competency standards.
3. Access to published experience of expertise disaster responses.
4. Assessment materials and tools.
5. Suitable assessment venue/equipment.
6. Workplace documentation.
7. Candidate special requirements.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient current and authentic. Evidence can be gathered through a variety of ways, including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Workplace processes

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job, or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. An individual working alone would demonstrate the competencies covered by this unit or as part of a team. The assessment environment should not disadvantage the candidate.

BCMCSS0123B: Conduct On-Site Supervision of Building and Construction Projects

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to supervise implementation of administration processes relating to residential and commercial construction projects. The ability to administer payments, supervise on-site communications, ensure compliance with quality control and complete record keeping processes is essential. This unit of competency supports the needs of site managers and forepersons and builders responsible for the administration of construction work.

Competency Field: Construction Site Supervision

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Supervise the administration of claims and payment processes	1.1 Make contract payments in accordance with the contract allowance or orders.
	1.2 Carry out drawings against allowances in accordance with organisation policy and procedures.
	1.3 Authorise variations to contracts and take corrective action where necessary.
	1.4 Apply back-charges in accordance with policy guidelines.
.	1.5 Authorise payment of invoices for material supply.
	1.6 Complete and process insurance claims for site loss or damage.
	1.7 Conduct and supervise administrative processes with reference to relevant regulatory and organisational requirements.
2. Supervise and maintain on-site communications	2.1 Maintain diary of on-site communication and events, including communications with clients, contractors, inspections, union matters and suppliers.
	2.2 Prepare and issue file notes detailing specific instructions.

		2.3 Prepare and keep site reports detailing specific supervisory inspections.
		2.4 Communicate variation requests or requirements to the appropriate person.
		2.5 Communicate notice of unsatisfactory work in writing to the appropriate individuals.
		2.6 Conduct and supervise administrative processes with reference to relevant regulatory and organisational requirements.
3.	Confirm management of and compliance with quality control procedures	3.1 Identify relevant quality control procedures.
		3.2 Use and complete site checklists detailing specific items to be inspected at appropriate stages.
		3.3 Use industry and organisational quality manuals and procedures in managing the quality process.
		3.4 Arrange local authority inspections.
		3.5 Communicate quality requirements to on-site personnel and assess building work against construction standards.
		3.6 Implement processes to supervise on-site work to ensure the performance of work to industry, regulatory and contractual standards.
		3.7 Meet contractual quality standards.
4.	Complete project administration processes	4.1 Carry out project administration processes and preparation for practical completion in accordance with the contract requirements and company policy.
		4.2 Identify practical completion inspection procedure and communicate with the client on site.
		4.3 Identify handover procedures and carry out in accordance with organizational policy.

4.4 Provide certificates and appropriate client information at handover, including termite protection and appliance warranties.

4.5 Obtain defects liability items from clients.

4.6 Rectify defects and sign-off with client.

4.7 Conduct and supervise administrative processes with reference to relevant regulatory and organisational requirements.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work Environments and situations that may affect performance. All range statements must be assessedand may include but not be limited to:

1. On-site communication includes:

    - 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

2. Regulatory and organisational requirements include:

    - Building approval conditions
    - Contract documents
    - Engineer reports
    - Environmental standards
    - Planning and scheduling
    - Plans and specifications
    - Safety management plans
    - Site consultations
    - Wage and taxation requirements

3. Quality control procedure includes:

    - 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

4. Project administration processes include:

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

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Building and construction industry contract payment system and obligations
2. Building and construction industry standards
3. Certification requirements arising from work performed under regulations or local authority requirements
4. Contract variation procedures and associated documentation requirements
5. Contracts employed in the building and construction industry

Candidates should know how to:

1. Apply contract terms and conditions
2. Apply quality processes
3. Communicate request and requirements
4. Communicate with the client and regulatory authorities
5. Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
6. Facilitate on-site meetings and dispute resolution
7. Read and interpret:
8. Quality control procedures
9. Regulatory and organisational requirements
10. Other relevant workplace documentation
11. Use language and concepts appropriate to cultural differences
12. Use and interpret non-verbal communication
13. Apply written skills to:
14. Complete site reports
15. Develop and maintain site records
16. Apply interpersonal skills relevant to the supervision and monitoring of work processes

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Administer claims, variations, and drawings for work done and materials supplied in accordance with relevant regulatory and organisational requirements.
2. Establish functional on-site communication systems that include the systematic gathering of information on site events.
3. Implement a site safety policy.
4. Maintain and monitor on-site quality processes.
5. Assess work against construction quality standards and ensure that rework is carried out administer on-site project completion procedures and inform client as required.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organization requirements.

Competency in this unit may be assessed through access to:

1. Documentation that should normally be available in either a building or construction office.
2. Relevant codes, standards and regulations.
3. Office equipment, including calculators, photocopiers and telephone systems.
4. Computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies.
5. Technical reference library with current publications on measurement, design, building construction and manufacturers' product literature.
6. Suitable work area appropriate to the construction process.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Project

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCMQUA0013B: Supervise and Apply Quality Standards for Selection of Building and Construction Materials

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to supervise the systems through which materials are selected, acquired and stored on site for building or construction work up to and including medium rise projects. It ensures the delivery to the site of materials that meet contract specifications and service requirements for commercial projects. This unit of competency supports builders, related construction industry professionals and senior managers.

Competency Field: Quality Assurance

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify and Describe the Properties of Building Materials	1.1	Identify suitability of materials commonly used in the region for a given building system.
		1.2	Identify properties of materials, their standards of quality and the compatibility and non-compatibility of different materials.
		1.3	Identify the environmental impacts of different materials.
		1.4	Identify the impact of allowable tolerances on the conversion of naturally occurring materials.
		1.5	Identify and check the tolerances for installing and assembling materials in regard to the nature of the work being performed and the requirements of industry standards.
2.	Select Suitable Building Materials for Application	2.1	Selection of building materials is conducted with reference to structural requirements and suitability for the building system specified in the contract.
		2.2	Select materials for their safety, required fire resistance rating, serviceability and cost effectiveness.
		2.3	Consider short and long-term degradation of materials in relation to the proposed life cycle of the building.
		2.4	Select alternative materials if specified materials are unavailable or unsuitable.

3.	Supervise the Acceptance, Safe Handling and Storage of Materials On-Site	3.1	Identify and communicate organisational procedures for the acceptance, safe handling and storage of materials on site.
		3.2	Determine limitations and effects of transportation on materials and components and take action in the case of potentially damaging circumstances.
		3.3	Handle materials correctly and safely on site using appropriate equipment and safe work practices.
		3.4	Store materials in accordance with manufacturer specifications and in compliance with the relevant industry standards.
		3.5	Implement systems for inspecting all materials delivered on site for naturally occurring and/or manufactured defects before installation.
		3.6	Seek advice from appropriate personnel and take appropriate actions in the case of defects caused by incorrect installation, application or placement.
		3.7	Preserve timber and ferrous and non-ferrous metals used in the construction process are protected using established methods.
4.	Supervise Testing of Materials On-Site for Suitability and Fitness for Purpose	4.1	Test materials, including soil, filling, compacting, surfacing, concreting and welding to specifications and analyse results on-site before and during installation.
		4.2	Take samples of materials during placement or installation and sent to laboratory for testing.
		4.3	Visually check materials for suitability before building and send materials off-site for testing if required.
		4.4	Implement processes to ensure defective materials are identified and record remedial action.
5.	Establish Records of Materials Testing and Report on Testing Process Conformance	5.1	Establish and maintain records of tests and testing procedures in accordance with its quality management obligations.
		5.2	Evaluate test results and reports are periodically to maintain integrity of organisational quality standards.
		5.3	Report non-conformant on-site materials tests immediately to the appropriate person for further action.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Records of Tests and Testing Procedures:

   - Distributing copies in accordance with organisational policy
   - Following up reports that indicate departures from quality or manufacturing requirements
   - Obtaining appropriate records and reports for review and analysis
   - Proving advice and information to regulatory authorities as authorised by the organisation
   - Taking appropriate remedial action within the scope of individual's authority

2. Selection of Building Materials:

   - Arranging for expert advice as necessary to confirm or refute materials options
   - Identifying materials from specifications and drawings
   - Identifying specifications and standards described in contract documents
   - Selecting and ordering materials that meet those requirements

3. Materials:

   - Brick or concrete structures, including:
     - Cavity brick
     - Core filled concrete blocks
     - Single skin clay block
     - Tilt-up concrete panels
   - Cladding, including:
     - Brick veneer
     - Colourbond and zincalume sheeting
     - Fibre cement or compressed wood paneling
     - Stuccoed stud walls
     - Weatherboards
   - Floor systems, including:
     - Bearers and joists
     - Brick bases
     - Compressed sheet wet area flooring
     - Concrete slab floors, including slabs on ground and suspended slabs
     - Engineered floor joists
     - Fitted (cut-in) floors
     - Platform floor construction
     - Sheet flooring
     - Tongue and groove flooring
     - Timber and timber structures

4. Acceptance, safe handling and storage of materials:

   - Allocation of space for on-site storage of materials
   - Confirming products or materials are as ordered and signing off delivery documentation
   - Ensuring safe unloading and handling of construction materials
   - Ensuring correct materials are delivered to correct site
   - Providing for adequate on-site security of materials
   - Undertaking quality checks within the competence of the individual

5. Testing of materials:

- Arranging external quality tests or inspections and providing results as necessary
- Arranging on-site quality and fit for purpose tests for products to be used in construction
- Completing appropriate organisational records
- Refusing acceptance of substandard or out of specification materials

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Alternative materials
2. Building and construction materials and technologies
3. Construction and contracting equipment and its use
4. Construction supply processes
5. Environmental effects on various building and construction materials
6. Relevant licensing arrangements
7. Testing procedures
8. Workplace safety requirements

Candidates should know how to:

1. Apply numeracy skills to workplace requirements
2. Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
3. Communicate organisational procedures and other information to relevant personnel
4. Read and interpret:
   - Documentation from a variety of sources
   - Plans, specifications and drawings
   - Report on difficulties with either supply or standards of materials
5. Use and interpret non-verbal communication
6. Use language and concepts appropriate to cultural differences
7. Apply written skills to:
   - Establish and maintain records of tests and testing procedures
   - Record relevant information
8. Apply materials testing skills to enable
9. Materials to be tested according to relevant standards or the ability to arrange for testing to be carried out independently
10. Apply reporting skills to report on difficulties with either supply or standards of materials
11. Apply supervisory skills to ensure the correct selection and installation of materials on site and secure storage of materials on site

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. 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.
2. 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.
3. Identify and incorporate customer variations to agreed plans and specifications.
4. Correctly interpret essential elements and apply these to estimation, planning and supervisory tasks.
5. Effectively communicate specification changes to organisational personnel and confirm variations with the client.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevantworkplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Documentation that should normally be available in either a building or construction office.
2. Relevant codes, standards and government regulations.
3. Office equipment, including calculators, photocopiers and telephone systems.
4. Computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies.
5. Technical reference library with current publications on measurement, design, building construction and manufacturer's product literature.
6. Suitable work area appropriate to the construction process.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Project

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGTES0033A: Monitor Concrete Slump and Cube Test

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to conduct slump test concrete to ensure the mix is workable and complies with the delivery docket and specified order. The unit includes sampling and slump testing to a set range or tolerance. It may also include working with others and as a member of a team. This unit of competency supports the role of those who slump test concrete designated for use on residential, commercial or civil construction sites. The results of slump tests are used to confirm the appropriateness of the concrete for the concrete work planned.

Competency Field: Testing

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Coordinate Work Activities	1.1 Review work instructions, work health and safety (WHS) requirements and other information relevant to the work are planning and preparation purposes.
	1.2 Identify hazards and workplace safe work procedures associated with the site, samples, test methods and equipment used.
	1.3 Assemble all required equipment/materials and check that they are fit for purpose.
	1.4 Identify, calculate and confirm material quantity requirements according to plans, specifications and quality requirements.
	1.5 Identify environmental requirements for the project according to environmental plans and regulatory obligations.
	1.6 Clean standard slumping cone in preparation for slump testing.
2. Perform Field Tests	2.1 Set up, check and operate test equipment safely and in accordance with workplace procedures and test method.

		2.2 Perform tests as specified in test method or workplace procedures.
		2.3 Take sufficient test measurements to ensure reliable data.
		2.4 Confirm that sample of concrete is taken, using the correct sampling procedure, directly from the delivery truck's initial discharge.
3.	Collect Site Samples and PrepareTest Pieces	3.1 Obtain required samples and maintain their integrity in accordance with sampling procedures or test method.
		3.2 Label all samples to ensure their traceability.
		3.3 Recognise and record any information about the sample appearance or site conditions that may impact on sample integrity.
		3.4 Prepare required test pieces and organise their safe curing, storage and/or transport in accordance with test method.
		3.5 Seek advice to deal with any situation beyond own technical competence.
4.	Test Concrete Slump Measurement	4.1 Take sample of concrete using the correct sampling procedure, directly from the delivery truck's initial discharge.
		4.2 Fill and compact slumping cone according to standard slump testing procedures.
		4.3 Level off slumping cone and clear surplus concrete is from steel plate and slumping cone.
		4.4 Raise slumping cone without moving the sample.
	.	4.5 Measure sample for conformity with tolerance levels and conduct resampling if sample is outside tolerance.
		4.6 Record collapsed or sheared samples.
5.	Maintain a Safe Work Environment	5.1 Use safe work procedures and personal protective equipment (PPE) to ensure personal safety and that of others.

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5.2 Minimise generation of waste and environmental impacts of testing.

5.3 Collect and/or dispose of all waste in accordance with environmental/quarantine requirements and workplace procedures.

5.4 Care for and store equipment, used test pieces and back-up samples in accordance with workplace procedures.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Samples and test pieces:

   - Samples of aggregates, soil, rock,concrete and road pavement
   - Beams and cylinders for laboratory testing, such as Brazil test
   - Pats for Marshall stability/flow test

2. Produce concrete cubes:

   - Clean and oil mould making concrete samples
   - Place moulds on steel tray
   - Fill cube with concrete in 3 equal layers and place on steel mould on a firm surface
   - Compact each layer of concrete 25 times throughout its depth with tampering rod
   - Use rod to level the cementious mix
   - Remove the excess concrete from mould

3. Density test procedures may require:

   - Removing curing tank at the designated time
   - Removing excess water with a trowel
   - Obtaining dimensions of each concrete sample
   - Determining the mass of the concrete sample and calculating the volume

4. Compressive strength test may require:

   - Setting the compressive testing equipment to the specified rate of loading
   - Positioning concrete sample on the equipment
   - Loading the sample gradually
   - Recording the maximum load
   - Calculating the compressive strength
   - Cleaning concrete from the external surfaces of the mould and leave in a remote location or designated position
   - De-moulding the concrete 24 hours after mixing, labeling and placing sample in a curing tank for 27 days
   - Maintaining a temperature of 21*c+ or -1*c in the curing tank

5. Tools and equipment:

    - Standard 150 mm cubes
    - Sampling scoops
    - Bullet nosed rod (600 mm long x 16 mm diameter)
    - Large pan/concrete bucket
    - Steel tray
    - Tamping rod
    - Brush
    - Wheelbarrow
    - Chamois
    - Scale

6. Rodding:

    - Pushing a steel rod in and out of the concrete to compact it into the cube 25 times for each layer, applied to 10mm into the 1st and 2nd layers

7. Sampling is required:

    - At the initial discharge
    - Routinely at three places during the load

8. Measuring:

    - A steel rule, to determine dimensions of the concrete sample
    - Compressive testing by machine to determine the strength of the completed samples
    - The scale will determine the mass to the specified precision

9. Appropriate corrective actions

    - Carefully re-reading procedures and checklists
    - Logically checking equipment set-up
    - Checking calibration, zero error and drift for the measuring instrument
    - Repeating test measurements
    - Checking data entry and transcription for errors
    - Seeking advice

10. Standards, codes, procedures and/or workplace requirements:

    - Standards covering the requirements for the competence of testing and calibration laboratories, laboratory safety, quality management and environmental management
    - National work health and safety (WHS) standards and codes of practice, national measurement regulations and guidelines, and environmental legislation and regulations
    - Standard methods for sampling and testing construction materials, such as soils, aggregates, concrete and asphalt
    - Specific codes, guidelines, procedures and methods, such as:
    - Workplace documents, such as standard operating procedures (SOPS); quality and equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS) and safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; and maps and site plans
    - Sampling and testing procedures for specific sites, clients and samples

11. Laboratory-based acceptance tests include, but are not limited to, one or more of testing of concrete, such as:

    - Compressive and tensile tests
    - Flexural tests
    - Testing of soils, such as:
    - Laboratory density and moisture content
    - Classification (consistency, particle distribution, dispersion and particle density)
    - Unconfined compressive strength
    - pH and conductivity
    - Colour
    - Testing of asphalt and bitumen seals,such as:
    - Density and compacted density
    - Particle size distribution
    - Stability/flow
    - Stripping (core samples)
    - Testing of aggregates, such as:
    - Particle size distribution and grading particle shape
    - Particle density, durability and absorption
    - Contamination (silt and organics)

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Relevant Acts, regulations, standards relating to the specification and supplyof concrete
2. Environmentally friendly waste management practices applicable to the task
3. General construction terminology
4. Processes for the accurate calculation of material requirements
5. Properties of concrete, including its strength, durability, workability and cohesiveness
6. Quality requirements relating to each stage of the concreting process
7. Processes for material storage
8. Slump testing techniques
9. Types, uses, characteristics and limitations of slump testing tools and equipment
10. Types, location and usage of relevant safety information:
    - Job safety analyses (JSA) and safe work method statements (SWMS)
    - Safety data sheets (SDS)
    - Safety manuals and instructions for plant, tools and equipment
    - Signage
    - Environmental and work site safetyplans

Candidates should know how to:

1. Communicate information effectively
2. Use language and concepts appropriate to cultural differences
3. Use and interpret non-verbal communication
4. Apply written skills to communicate by memo, letter, facsimile or email with subcontractors, staff, clients, and regulatory authorities
5. Apply interpersonal skills relevant to the supervision and monitoring of work processes
6. Apply numeracy skills to apply calculations

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Conduct three slump tests from different batches of concrete, to determine if the mix is workable and complies with the delivery docket and specified order.
2. Determine when slump test fails and steps to take to communicate test outcomes to relevant personnel.
3. Locate, interpret and apply relevant information, standards and specifications relating to slump testing.
4. Comply with site safety plans and procedures.
5. Comply with organisational policies and procedures relating to conducting slump tests.
6. Safely and effectively operate and use plant, tools and equipment required to slump test concrete.
7. Communicate and work effectively and safely with others.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. An induction procedure.
2. Realistic tasks or simulated tasks covering the mandatory task requirements.
3. Tools and equipment appropriate to applying safe work practices.
4. Support materials appropriate to activity.
5. Workplace instructions relating to safe work practices and addressing hazards and emergencies.
6. Safety data sheets.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Project
6. Observation of work processes
7. Case study

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGCMP0013B: Apply Legal Requirements to Building and Construction Projects

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to apply legal requirements to building and construction projects of residential and low-rise commercial buildings. This unit of competency supports the needs of builders, site managers, forepersons, estimators and other construction industry.

Competency Field: Compliance

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Apply the Laws Relating to Builder Licensing or Registration	1.1	Apply the laws relating to builder licensing or registration.
		1.2	Apply classifications for builders, supervisors and managers.
2.	Apply OH&S Legislation and Provisions On-site	2.1	Research main provisions of OH&S legislation and regulations and identify local legislative requirements.
		2.2	Identify, apply and monitor codes applicable to on-site construction.
		2.3	Identify and apply site safety signage requirements.
3.	Apply the Codes, Acts, Regulations and Standards Relevant to Construction.	3.1	Research current codes, Acts, regulations and standards applicable to a particular building and construction project.
		3.2	Carry out construction process in accordance with codes, Acts, regulations and standards concerning construction, insurance, sustainability, environmental matters and appropriate by-laws.
4.	Comply With Insurance And Regulatory Requirements for Housing Construction	4.1	Arrange insurance cover in accordance with legal requirements.
		4.2	Apply contract law in accordance with common law principles and regulations, and fair-trading legislation.

5.	Apply Legislation to FinancialTransactions	5.1	Set up and administer payroll systems in compliance with current legislative requirements.
		5.2	Set up and administer GCT systems in compliance with current legislation.
6.	Meet Building Contract Obligations.	6.1	Select correct form of contract for the project.
		6.2	Carry out contracted work in accordance with the contractual obligations applicable to both parties.
	.	6.3	Meet conditions of the contract, including approvals and financial matters.
7.	Apply Industrial Relations Policies and Obligations Relevant to Housing Construction	7.1	Research, identify and apply relevant industrial relations policies and obligations.
		7.2	Identify and contract subcontract companies that comply with company policy and obligations under subcontract agreements.
		7.3	Apply relevant awards to contracts.
		7.4	Use workplace agreements in accordance with company policy.
		7.5	Take proactive measures to ensure discrimination and harassment are not practised in the workplace.
		7.6	Identify and apply provisions of training agreements.
		7.7	Make available reference material on access to industrial relations or legal information.
8.	Apply Dispute Resolution Processes	8.1	Apply organisational dispute resolution processes.
		8.2	Handle customer complaints in accordance with company policy.
		8.3	Document disputes and record and maintain outcomes.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Acts, Licensing or registration, regulations:

    - Builders Registration Act
    - Home Building Contracts Act
    - Codes, Acts, regulations and standards
    - Industrial relations policies and obligations

2. Application of legal requirements:

    - The capacity to ensure compliance with all contractual requirements
    - Current legal and regulatory requirements are essential

3. 'Low rise' licensing classification refer to:

    - Class 1 and 10 construction
    - Classes 2 to 9 with a gross floor area not exceeding 2000 square metres, not including Type A or Type B construction

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Building and construction industry contracts
2. OH&S frameworks and obligations legislation and regulation
3. Organisational policies and procedures related to discrimination and harassment
4. Reasonable anti-discrimination and equal employment opportunity legislation
5. Risk management processes and practices and the planning required to develop plans
6. Building and construction codes, standards and government regulations
7. Workplace safety requirements

Candidates should know how to:

1. Research, access and interpret complex documents
2. 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
3. Use language and concepts appropriate to cultural differences
4. Use and interpret non-verbal communication
5. Apply written skills to communicate by memo, letter, facsimile or email with subcontractors, staff, clients and regulatory authorities
6. Apply interpersonal skills relevant to the supervision and monitoring of work processes
7. Apply numeracy skills to apply calculations

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Understand appropriate registration, licensing or compliance requirements of registration authorities.
2. Meet appropriate business registration requirements.
3. Identify and specify appropriate insurance documentation, citing protection that meets local industry requirements.
4. Identify and specify requirements for compliance with:
   - OH&S legislation.
   - Legislation pertaining to financial transactions, including payment of wages and subcontractor and supplier invoices.
5. Relevant building and construction codes, Acts, regulations and standards.
6. Sustainability and environmental legislation.
7. Industrial relations laws.
8. Legal obligations of contractual agreements.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevantworkplace procedures and organization requirements.

Competency in this unit may be assessed through access to:

1. Documentation that should normally be available in either a building or construction office.
2. Relevant codes, standards and government regulations.
3. Office equipment, including calculators, photocopiers and telephone systems.
4. Technical reference library with current publications on measurement, design, building construction and manufacturer's product literature.
5. A suitable work area appropriate to the construction process.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways, including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Project

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unitwould be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

THHGCS0023E: Deal With Conflict Situations

Competency Descriptor: This unit deals with the skills, knowledge and attitudes required to deal with conflicting situations. It includes implementing conflict resolution strategies and using effective interpersonal skills.

Competency Field: Human Resources

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Identify Conflict Situations	1.1 Identify signs and possible causes of conflict.
	1.2 Determine accurately the stage of the conflict, with respect to progression and possible escalation.
	1.3 Take swift and tactful action to prevent escalation.
	1.4 Identify situations where personal safety of clients or staff may be threatened and organise appropriate assistance if required.
	1.5 Identify factors within the individual or workplace environment, which relate to the developing conflict.
2. Implement Conflict Resolution Strategies	2.1 Apply conflict resolution skills to conflicts that fall within your scope of individual responsibility.
	2.2 Clarify factors and issues relevant to the conflict.
	2.3 Discuss correct use of conflict resolution techniques to manage the conflict after consideration of the particular situation.
	2.4 Identify options for resolution of the conflict which allow for constructive responses to be negotiated and enable established work relationships to continue.
	2.5 Encourage, treat with respect, and accept where appropriate all points of view during negotiations and discussions.

3.	Use Effective Interpersonal Skills	3.1 Demonstrate use of effective verbal and non-verbal communication during negotiations including body language, questioning, language style, active listening and reflection.
		3.2 Provide assertive feedback and receive feedback non-defensively during negotiation.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Conflict Resolution Techniques:
   - Withdrawal
   - Smoothing
   - Compromise
   - Forcing
   - Confrontation
   - Problem solving
   - Compromise
   - Majority vote
   - Arbitration

2. Factors Related to Conflict:
   - Opposing attitudes, values, beliefs
   - Individual versus group goals
   - Workload
   - Stress
   - Limited resources

3. Conflict Situations:
   - Client complaints
   - Conflicts among work colleagues
   - Conflict between clients/participants

4. Interpersonal Skills:
   - Communication
   - Verbal
   - Non-verbal
   - Questioning
   - Listening
   - Paraphrasing
   - Negotiating

5. Options for resolution:
   - Win - win
   - Win - lose
   - Lose - lose

6. Workplace environment:
   - Sectors of the sport and recreation industry
   - Fitness
   - Sport
   - Community recreation
   - Outdoor recreation

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Signs and stages of conflict in the workplace
2. Possible causes/sources of conflict (ideational, status and power, goal conflict)
3. Functions of conflict (functional and dysfunctional)
4. Options for constructive responses to typical conflict situations
5. Conflict resolution skills (incorporating communication skills)
6. Problem solving skills
7. Procedures for customer complaints

Candidates should know how to:

1. Demonstrate interpersonal skills
2. Participate in small informal work groups
3. Apply problem solving
4. Gather, record, and convey information
5. Identify potential for conflict
6. Identify situations where personal safety of customers or colleagues may be threatened
7. Find a solution to conflict
8. Encourage all points of view
9. Use communication skills
10. Use conflict resolution techniques
11. Manage the conflict situation
12. Handle complaints
13. Establish nature and details of complaints
14. Turn complaints into opportunities
15. Complete documentation

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects and Evidence

Evidence should include a demonstrated ability to:

1. Apply knowledge and appropriate techniques to:
   - Identify sources of conflict in the workplace.
   - Resolve a range of different conflict situations, using different options for resolution.
2. Use suitable communication skills to facilitate effective discussion between all parties and achieve resolution.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Real or simulated work group situations.
2. Access to information relevant to the workplace.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including:

1. Practical demonstration
2. Direct observation
3. Oral/written questions
4. Case study
5. Role play

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCMCSS0023C: Co-ordinate Site Layout and Preparation

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to co-ordinate activities relating to site layout, storage and the preparation of site for construction operations and activities. This unit applies to construction site supervisors.

Competency Field: Construction Frontline Management

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and Prepare Work	1.1 Interpret work instruction/specification accurately and the required resources planned/organized according to organisation procedures.
	1.2 Adhere to quality assurance requirements of company's construction operations.
	1.3 Comply with the OH&S requirements for workplace environment.
	1.4 Select appropriate personal protective equipment; ensure correct fit and use by team members.
	1.5 Confirm tools and equipment available at site are consistent with requirements of construction site preparation and serviceable.
	1.6 Identify safety hazards and use correct procedures to eliminate danger to self and others according to OH&S legislation and company policy.
	1.7 Clear/level/grade site appropriately using appropriate work process/procedures.
	1.8 Access and traffic routes are laid out/prepared according to site plan and organisation's procedure.
	1.9 Check delivered materials against job specifications or work instructions for quality and description.

2.	Prepare Site for TemporaryFencing and Structures	2.1 Identify services, location and work areas accurately.
		2.2 Adequate warning signs and safeguards are in place to support and protect services and substructures identified in work area.
		2.3 Set-up temporary signs, control systems and protective barriers and secure in accordance with job and safety instructions.
3.	Co-ordinate the Erection of Site Security Fencing/Hoarding	3.1 Select the appropriate type of fencing materials in adequate quantities.
		3.2 Confirm dimensions of installed fence components to job specifications and/or work instructions.
		3.3 Check that fences erected confirm to the security and enclosure requirements.
4.	Co-ordinate Construction of Temporary Site Structures	4.1 Instruction/specification for temporary site structures accurately interpreted/communicate to the relevant persons.
		4.2 Temporary site structures lay out to facilitate ease of access and to prevent obstruction of other site activities.
		4.3 Erect temporary site structures, check and confirm as conforming to job specification/ instruction given.
5.	Co-ordinate Storage of Tools and Machine Accessories	5.1 Lay out and build storage facilities correctly to specifications.
		5.2 Apply working knowledge of the type of items to be stored correctly.
		5.3 Organise storage for proper delivery, checking and control of materials, tools and equipment.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. OH&S requirements:

- Material/component handling
- Personal safety
- Heavy equipment operation
- Hand tools usage
- Power tool operation
- Protective clothing to include:
- Safety helmet, safety boots, coverall

2. Safeguards:

- Barriers
- Covers
- Warning signs
- Warning lights
- Scaffolding/props
- Struts, hoists and ladders
- Hoardings

3. Resources:

- Personnel
- Plant and equipment
- Materials and components
- Consumables
- Time
- Specialist services
- Public utility services

4. Sources of instruction/information:

- Site plans
- Working drawing/sketches
- Oral/written work instructions
- Relevant health and safety regulations
- OH&S requirements

5. Services:

- Electricity
- Water
- Telephone
- Cable - overhead and underground

6. Work activities:

- Clearing site by manual/mechanical means
- Laying out and constructing access route, security
- Fencing and temporary site structures

7. Delivered materials:

- Lumber
- For cladding and roofing
- Marl/aggregate/sand
- Fasteners
- Cement
- Reinforced steel
- Plumbing materials

8. Equipment for site preparation:

- Earth moving
- Materials spreading and levelling
- Excavating
- Transporting

9. Hand and power tools for site preparation for:

- Chopping
- Cutting
- Sawing
- Digging
- Spreading materials
- Carrying and transporting (wheelbarrows,buckets)
- Mixing
- Nailing and fastening
- Climbing
- Measuring and levelling

10. Organisation for storage control:

- Tool cribs attendant control
- Materials delivery and checking to
- Determine if specification have been met
- Determine if quantities are correct
- Determine if defects exist
- Determine if breakage has occurred
- Assign responsibility of checking as a
- Monitoring duty
- Accounting procedures in receiving and
- Checking materials

11. Storage for:

- Standard equipment
- Machine accessories
- Hand tools
- Special tools
- Tools cribs and panels
- Materials
- Checking and recording of items

12. Relevant persons:

- Site management
- Contractor
- Sub-contractors
- Suppliers
- Operatives

13. Temporary structures:

- Site offices
- Stores
- Toilets
- Changing rooms
- Hoarding

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Types and purpose of job information/instructions
2. OH&S requirements for preparing construction sites
3. Physical conditions of site
4. Tools, machines and equipment
5. Site fencing and hoarding
6. Relevant statutory requirements relating to site boundaries
7. Access and traffic routes
8. Storage and control of tools and materials
9. Convenient, visible and safe storage
10. Storage space and zone
11. Quality standards and specifications
12. Items to be stored: standard equipment, machine accessories, hand tools, special tools, materials
13. Tools cribs and tool panels
14. Checking and recording storage items
15. Organisation for storage control

Candidates should know how to:

1. Read and interpret technical document
2. Identify contract requirements
3. Write report
4. Present oral and written communication
5. Measure and calculate dimensional specifications
6. Make decisions

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable to workplaceoperations.
2. Apply organisational management policies and procedures including quality assurance requirements where applicable.
3. Read and interpret job related documentations.
4. Co-ordinate the clearing of construction sites.
5. Co-ordinate the preparation of access route, and the construction of temporary fencing/hoarding and structures.
6. Organise the storage of tools, equipment and materials on site.
7. Relate to people from varied social, cultural and ethnic backgrounds.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. A real or simulated environment.
2. Project resources.
3. Organisation policies and guidelines.
4. Access to relevant resource personnel.
5. Relevant legal and statutory documentation.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways, including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Observe workplace processes.
6. Case study.
7. Portfolio.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGFLS0063C: Co-ordinate the Erection and Dismantling of Advanced Scaffolding

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to monitor the erection and dismantling of advanced scaffolding, including planning and preparation for work, conducting operational checks, safely and effectively erecting and dismantling advanced scaffolding activities for a range of tasks, including erecting and dismantling hung scaffolds, suspended scaffolds, and tube and coupler scaffolding systems to provide work platforms, edge protection and access ways in accordance with designated standards.

Competency Field: Construction Site Management

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and Prepare for Operation	1.1 Verify and comply with applicable safety (OH&S), licensing,legislative and organisational requirements relevant to erecting and dismantling advanced scaffolding.
	1.2 Review work order, confirm and clarify with appropriate personnel.
	1.3 Assess and prepare the type of operations for conducting advanced scaffolding.
	1.4 Select equipment appropriate for work requirements and check for operational effectiveness in accordance with manufacturer recommendations.
.	1.5 Plan advance scaffolding operations in accordance with site procedures.
	1.6 Adhere to environmental protection measures in accordance with environmental plans and regulations.
	1.7 Establish and maintain communication with others in accordance with OH&S requirements.

2.	Erect Scaffolding	2.1 Confirm the purpose for scaffolding and specify the associated work tasks.
		2.2 Design loading on scaffold and verify support structure using load tables in accordance with appropriate limits standards and specifications.
		2.3 Verify site access and egress routes.
		2.4 Select and inspect scaffolding and components, reject isolate, label and tag damage components.
		2.5 Prepare footings in accordance with regulations, legislation, codes of practice, manufacturer specifications and engineer's instructions.
		2.6 Set out and erect scaffolding in accordance with regulatory requirements and manufacturer specifications.
		2.7 Assemble and erect lifting device in accordance with manufacturer specifications and regulatory requirements.
		2.8 Detect site hazards associated with scaffolding operations assess risks and safe operating techniques used to eliminate or control risks.
3.	Erect Ancillary Scaffolding Equipment	3.1 Erect and install fall protection in accordance with job specifications and regulatory requirements.
		3.2 Erect and check for serviceability cantilevered hoist, with a lifting device working load limit not exceeding 500kg.
4.	Inspect, Repair and Alter Erected Scaffolding	4.1 Inspect for damage erected hung or suspended scaffolding, tube and coupler for corrosion, wear and compatibility prior to use.
		4.2 Isolated, label, tag, reject or replace faulty components immediately.
		4.3 Check existing use of scaffolding against original design in accordance with regulations and specifications.
		4.4 Inspect scaffolding stability and confirm in accordance with OH&S regulations.
		4.5 Carry out alterations and repairs on specified equipment or where faults discovered to ensure regulatory compliance.
		4.6 Complete and date inspection log and handover.

5.	Dismantle Scaffolding and Cleanup	5.1 Isolate scaffolding, sign and barricade to ensure safe dismantling appropriately.
		5.2 Dismantle scaffolding using reverse procedure as for erection.
		5.3 Clear work area, dispose of materials, reuse or recycle in accordance with legislation, regulations, codes of practice and job specifications.
		5.4 Clean, check, maintain and store tools and equipment in accordance with manufacturer recommendations and standard work practices.
		5.5 Apply work completion procedures and notify appropriate personnel that work is finished.
		5.6 Record and report advance scaffolding operations and faults to appropriate personnel.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Legislation and regulations and project safetyplan:

    - Emergency procedures, including extinguishing fires, organisational first aidrequirements and evacuation
    - Handling activities that may require the assistance of others or the use of manualor mechanical lifting devices where size, weight or other issues, such as disability are a factor
    - Hazard control
    - Hazardous materials and substances
    - Housekeeping
    - Organisational first aid
    - Personal protective equipment (PPE) prescribed under legislation, regulationsand workplace policies and practices
    - Use of firefighting equipment
    - Use of tools and equipment
    - Workplace environmental requirements and safety

2. Conduct of operational risk assessment and treatments associated with:

    - Machines
    - Man-made structures
    - Obstructions
    - Recently filled trenches
    - Restricted access barriers
    - Safe parking
    - Security from unauthorised access or movement
    - Signage and barricades
    - Surrounding structures
    - Traffic control
    - Underground or overhead services
    - Uneven or unstable surfaces or terrain
    - Work site visitors and the public
    - Working at heights
    - Working in proximity to others

3. Legislative requirements:

    - Industrial arrangements
    - Confidentiality and privacy requirements
    - Environmental issues
    - Equal opportunity
    - Industrial relations and anti-discrimination
    - OH&S issues
    - Relevant industry codes of practice
    - Relevant legislation from all levels of government that affect business operations

4. Organisational requirements include legal, organisational and site policy, guidelines and procedures relating to:

    - Access and equity principles and practices
    - Consultative processes
    - Emergency and evacuation procedures
    - Equipment maintenance and storage procedures
    - Ethical standards
    - OH&S policies
    - Own role and responsibility
    - Procedures and programs
    - Quality and continuous improvement processes and standards
    - Quality assurance or procedures manuals
    - Recording and reporting procedures

5. Work order:

    - Organisational work specifications and instructions issued by authorised personnel for erecting and dismantling advanced scaffolding and respective tasks

6. Appropriate personnel:

    - Client
    - Colleague
    - Manager
    - Supervisor
    - Supplier

7. Advanced scaffolding:

    - Cantilevered and spurred scaffolding
    - Cantilevered crane loading platforms
    - Couplers
    - Hung scaffolds (scaffold hanging from tubes, wire ropes and chains)
    - Sloping platforms
    - Suspended scaffolds (swing stages, boatswain chairs, multiple layer, single layer and articulated layer supported by wire ropes and may include maintenance units)
    - Tube and fitting scaffolding systems with mast climbers, cantilevers, barrow ramps, spurs, longitudinal and transverse braces, random planks and putlogs
    - Modular scaffolding

8. Equipment:

    - Bracket scaffolds (tank and formwork)
    - Cantilevered hoists (materials only with maximum working load limit not exceeding 500kg)
    - Couplers
    - Fibre ropes
    - Gin wheels
    - Hung scaffolds
    - Manual and/or motorised winches
    - Modular stages (aluminium or steel)
    - Safety nets
    - Static lines
    - Suspended scaffolds
    - Tube and fitting scaffolding
    - Adjustable base plates
    - Box spanners
    - Braces
    - Cutters
    - Forklifts
    - Guardrails
    - Hammer drills
    - Hammers
    - Ledgers, mast climbers
    - Materials hoists, mesh guards
    - Mid rails, pallet trolleys
    - Perimeter safety screens and shutters
    - Podgers hammers
    - Prefabricated components
    - Relevant maintenance equipment
    - Scaffold belts
    - Scaffolding planks (including laminated)
    - Shovels
    - Sledgehammers
    - Spanners, spirit levels
    - Stairs or ladders
    - Standards
    - Steel and aluminium tubes
    - Tape measures, torpedo levels
    - Transoms
    - Wheelbarrows
    - Wire nips
    - Wrenches

9. Environmental protection measures include organisational and project requirements:

    - Clean-up management
    - Noise and dust
    - Waste management

10. Tasks

    - Access ways
    - Edge protection
    - False work
    - Grandstands
    - Provision of work platforms
    - Stages and covered walkways

11. Footings:

    - Review of JSA and safe work method statements to determine the bearing capacity of ground or working surfaces components, including sole boards or base plates

12. Erection:

    - Levelling
    - Placement
    - Sequencing
    - Squaring
    - Tying to a structure

13. Records and reports:

    - Advanced scaffolding operations and maintenance of equipment
    - Costs
    - Dangerous occurrences or equipment malfunctions using logbooks, pro formas,production reports and maintenance records
    - Difficulties or issues faced
    - Environmental issues
    - Hazards
    - Incidents or injuries
    - Logbooks, pro formas, production reports and maintenance records recording dangerous occurrences or equipment malfunctions
    - Recommendations for future work results

14. Fall protection:

    - A full body rescue harness connected to a fall line and working platform edge protection while the scaffold is erected
    - Static lines include:
    - Static lines that can sometimes be used to form part of a travel restraint system that are horizontal lines, generally constructed from steel wire rope to which lanyards are usually connected
    - Static lines may be used:
    - As part of a travel restraint system where access is required close to an unprotected edge, or on a sloping or slippery surface

15. Lifting devices:

    - manual or motorised winches
    - mast climbers cantilevered hoists and gin wheels

16. Cantilevered hoist:

    - With a working load limit not exceeding 500kg which only moves materials and is erected subsequent to the scaffold

17. Hazards:

    - Buildings and structures
    - Chemicals and hazardous materials
    - Fires
    - Movement of equipment, goods or material
    - Traffic
    - Underground or overhead services
    - Uneven or unstable surface or terrain

18. Alterations and repairs may be required due to:

    - Accidents
    - Misuse
    - Process changes
    - Storm damage

19. Handover:

    - Signing of the handover certificate which certifies that scaffold is ready for service and complies with standards in its entirety

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Advanced scaffolding capabilities and gear
2. Designs and functions of equipment
3. Environmental protection requirements relating to the disposal of waste material
4. Established communication channels and protocols in the workplace
5. Federal, and state or territory OH&S legislation, regulations, standards and codes of practice relevant to the full range of processes for erecting and dismantling advanced scaffolding
6. Job safety analysis (JSA) and safe work method statements
7. Lifting devices and capabilities
8. Material safety data sheets (MSDS) and material handling methods
9. Organisational and site standards, requirements, policies and procedures for erecting and dismantling advanced scaffolding
10. Procedures for recording, reporting and maintaining workplace records and information
11. Rated capacity and working load limit tags
12. Risk assessment and management
13. Safe working at heights and fall arrest
14. Types of tools and equipment, and procedures for their use, operation and maintenance
15. Typical routine problems encountered in the process and with equipment and adjustments required for correction
16. Weather considerations

Candidates should know how to:

1. Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
2. Clarify and confirm work order with appropriate personnel
3. Follow instructions
4. Participate in on-site meetings
5. Read and interpret:
6. Instructions
7. Work orders
8. Other relevant documentation
9. Report faults and respond appropriately
10. Use and interpret non-verbal communication
11. Use language and concepts appropriate to cultural differences
12. Apply written skills to:
13. Complete inspection log
14. Document hazards
15. Record and report faults
16. Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for erecting and dismantling advanced scaffolding
17. Efficiently and safely erect and dismantle advanced scaffolding
18. Numeracy skills to calculate rated capacity and working load limits
19. Use and maintain relevant tools, machinery and equipment

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with organisational and site policies and procedures, including quality requirements and legislation applicable to workplace operations.
2. Comply with OH&S and environmental regulations, policies and procedures.
3. Communicate effectively and work safely with others in the work area.
4. Conduct risk assessment and management procedures.
5. Complete the planning, erection and dismantling of suspended and hung scaffold system, in accordance with JSA and safe work method statements and regulations, including a minimum of:
   - Two bays hung.
   - Support suspension system for a single stage.
   - Edge protection.
   - Conduct pre and post-operational checks of advanced scaffolding.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Workplace location or simulated workplace.
2. Materials and equipment relevant to erecting and dismantling advanced scaffolding.
3. Specifications and work instructions.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Project.
5. Case study.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGSTW0933C: Apply Reinforcement Schedule

Competency Descriptor:

This unit deals with the knowledge, skills and attitude required to interpret the reinforcement schedule and use it to confirm and locate materials to support construction activities. It includes planning and preparation for work, reading and interpretation of the schedule, and use of the schedule to confirm materials, locate materials for construction use and provide information to others on site.

Competency Field: General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and Prepare for Reinforced Concrete Construction	1.1 Obtain work instructions, including plans, specifications, quality requirements and operational details from relevant information.
	1.2 Confirm and apply to the scope of work performed.
	1.3 Identify reinforced concrete construction schedule from project schedule.
	1.4 Identify elements of structure from project construction schedule and job drawings.
	1.5 Adhere to the safety (OH&S) requirements in accordance withsafety plans and policies.
	1.6 Identify environmental requirements for the project in accordance with environmental plans.
2. Read and Interpret Schedule	2.1 Confirm structural element from site and structural detail drawings.
	2.2 Read reinforcement schedule to identify the appropriate type for the structural element.
	2.3 Identify number of reinforcement pieces/sheets from structural detail drawings.

		2.4	Read reinforcement schedule to identify coding and number related to labels.
		2.5	Identify discrepancies in coding and numbering and report situation to schedule contact for clarification.
3.	Check Contents of Identified Bundle(s)	3.1	Check content of reinforcement material bundles for conformity to schedule and proposed structural element.
		3.2	Investigate, resolve or report discrepancies between the schedule and actual material quantities.
		3.3	Investigate, resolve or report discrepancies between the schedule and actual material shape, size or length.
		3.4	Identify, segregate and report crank or bent items of reinforcement.
		3.5	Mark schedule where content conforms to schedule and structural element's requirements.
4.	Locate Reinforcement for Element Construction	4.1	Make or place reinforcement and note it ready for transportation to the element location.
		4.2	Direct reinforcement to structural location for placement and fixing.
5.	Communicate Schedule Information	5.1	Communicate job sequencing schedule detail to steel fixers and team members to ensure efficient work practices.
		5.2	Changes to job sequencing schedule are recorded as per site requirements.
		5.3	Identify work completion procedures are identified and relevant personnel notified when finished, as per site requirements.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Structural elements:

    - Footings
    - Slabs
    - Columns
    - Beams
    - Walls
    - Block work

2. Reinforcement:

    - Mild steel bars
    - Mesh or fabric reinforcement

3. Identification characteristics about reinforcement:

    - Location for material
    - Size of bar
    - Shape of formed bars
    - Size of mesh
    - Type of steel bar
    - Cranks and bends
    - Number of bars in a bundle
    - Length of material
    - Grade of steel reinforcing surface markings

4. OH&S requirements to be in accordance with statutory legislation and regulations:

    - Workplace environment and safety
    - Protective clothing and equipment
    - Use of tools and equipment
    - Handling of materials
    - Emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
    - Handling activities that may require the assistance of others or the use of manual or mechanical lifting devices where size, weight or other issues, such as a disability are a factor
    - Hazard control
    - Hazardous materials and substances, including cement and curing agents
    - Organisational first aid
    - PPE prescribed under legislation, regulations and workplace policies and practices
    - Safe operating procedures, including the conduct of operational risk assessment and treatments associated with lighting, power equipment, trip hazards, and power leads and sources

5. Quality assurance requirements:

    - Workplace operations and procedures
    - Quality of materials
    - Control of handling procedures
    - Attention to specifications of work
    - Placement of reinforcement

6. Steel reinforcement for concrete construction to be in accordance with:

    - Concrete structures
    - Steel reinforcing bars for concrete

7. Information:

    - Diagrams or sketches
    - Instructions issued by authorised organisational or external personnel
    - Manufacturer specifications and instructions, where specified
    - MSDS
    - Memos
    - Regulatory and legislative requirements pertaining to the application of reinforcement schedules
    - Relevant standards
    - Safe work procedures relating to the application of reinforcement schedules
    - Signage
    - Verbal, written and graphical instructions
    - Work bulletins
    - Work schedules, plans and specifications

8. Reinforced concrete construction schedule:

    - Information:
        - Grade of steel reinforcing
        - Length of material
        - Location for material, size and shape of bars
        - Number of bars in a bundle
        - Shape of formed bars
        - Size of mesh
        - Surface markings
        - Type of steel bars, cranks and bends
    - Structural elements include:
        - Beams
        - Columns
        - Footings
        - Slabs
        - Walls

9. Environmental requirements:

    - Clean-up management
    - Dust and noise
    - Waste management

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Construction and steel-fixing terminology
2. Construction site traffic control and signage arrangements
3. Conventional symbols, markings and numbering systems relevant to reinforcement schedules
4. Job safety analysis (JSA) and safe work method statements
5. Presentation and contents of reinforcement schedules
6. Presentation and general content of typical construction schedules
7. Quality requirements
8. Reinforcement material types, appearance standards, packaging and labelling arrangements
9. Workplace and equipment safety requirements

Candidates should know how to:

1. Communicate job sequencing schedule detail to steel fixers
2. Determine requirements
3. Follow instructions
4. Notify completion of work
5. Read and interpret discrepancies and faults
6. Identify and accurately report to appropriate personnel any faults in tools, equipment or materials
7. Read and interpret construction and reinforcement schedule

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Locate, interpret and apply of relevant information, standards and specifications.
2. Comply with site safety plan and OH&S legislation, regulations and codes of practice applicable to workplace operations.
3. Comply with organisational policies and procedures, including quality requirements.
4. Safely and effectively use tools and equipment.
5. Communicate and work effectively and safely with others for a minimum of two different sites:
    - Confirm the reinforcement material to the schedule.
    - Direct the location of the reinforcement materials for element construction.
    - Communicate schedule information and variations to steel fixers.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. An induction procedure and requirement.
2. Realistic tasks or simulated tasks covering the mandatory task requirements.
3. Relevant specifications and work instructions.
4. Tools and equipment appropriate to applying safe work practices.
5. Support materials appropriate to activity.
6. Workplace instructions relating to safe work practices and addressing hazards and emergencies.
7. Material safety data sheets.
8. Research resources, including industry related systems information.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Project.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate

BCMCSS0073B: Co-ordinate the Placement of Concrete

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to effectively co-ordinate the handling, placing, compacting, testing, curing and quality control of concrete and applies to supervisors and foremen working in the construction industry.

Competency Field: General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and Prepare Work	1.1 Identify work instructions, work health and safety (WHS) requirements and other information relevant to the work.
	1.2 Confirm and apply the planning and preparation purposes.
	1.3 Select and check plant, tools and equipment consistent with job requirements for serviceability.
	1.4 Rectify and report faults prior to the commencement of work.
	1.5 Identify and calculate material quantity requirements, including the volume of concrete required in accordance with plans, specifications and quality requirements.
	1.6 Obtain materials appropriate for the work application.
	1.7 Estimate the time required for concrete pour based on size of area to be concreted, volume of concrete required, and level of complexity of concrete pour.
	1.8 Identify environmental requirements for the project according to environmental plans and regulatory requirements.

2.	Co-ordinate the Placement of Concrete to Structures	2.1 Mix concrete in accordance to worksite procedure to meet engineer's specifications and/or job requirements.
		2.2 Conduct the appropriate and relevant concrete tests in accordance to organisation's methods and procedures.
		2.3 Arrange for the handling, lifting or hoisting and placing concrete to conform to job requirements.
		2.4 Transport concrete and discharge safely and efficiently according to worksite method and procedure.
		2.5 Define the location of concrete placement from drawings and specifications, check and confirm them ready to receivepoured concrete.
		2.6 Co-ordinate placement of concrete in a manner to ensure correct height to avoid segregation, achieve desired finish and to minimise waste and spillage.
		2.7 Consolidate pour concrete during process using appropriate compaction or vibration method to specifications.
		2.8 Conduct measurements and calculations throughout and pour to ensure sufficient concrete is delivered to fill the required area and place orders for shortfall as required.
		2.9 Check finish levels against datum using appropriate levelling device.
		2.10 Screed concrete to correct levels and grades using appropriate straight edge tool or mount formwork screed.
3.	Apply Curing Technique to Concrete	3.1 Cure concrete to engineer's approval and in accordance with the National Building Codes and standard practice in concrete on building.
		3.2 Install preventive barriers to prevent curing agents from affecting surrounding environment.
		3.3 Apply and maintain curing compound and method on concrete surface to project specifications.

4.	Co-ordinate clean-up of site	4.1 Take appropriate action to ensure that waste and unwanted material is disposed of safely according to site and environmental requirements.
		4.2 Clean tools and equipment, maintain and store according to organisation's requirements.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Quality assurance requirements:
    - Workplace operations and work procedures
    - Quality of material
    - Control of placement, compaction and finish of concrete
    - Use and maintenance of tools, plant and equipment
    - Specifications of work
2. OH&S requirements to be in accordance with Statutory Legislation and regulations:
    - Protective clothing and equipment
    - Workplace environment and safety
    - Working platforms
    - Use of tools and equipment
    - Emergency procedures
3. Work information/instruction/ specification:
    - Drawings
    - Technical literature
    - Relevant building standards/regulations
    - Oral and written instructions
    - Organisational requirements
    - Legal requirements
    - Manufacturer's instructions
    - Security requirements
4. Required resources:
    - Chute, skip, pump
    - Aggregates, cements, additives
    - Formwork, membranes
    - Anti-heave materials
    - Cube moulds and sump test equipment
    - Poker vibrators
    - Tampers and floats
    - Curing materials and spray compounds
    - Hand tools, portable tools and equipment

5. Tools and equipment:

    - Shovels and rakes
    - Wooden floats
    - Steel floats
    - Bull floats
    - Immersion vibrator or vibrating table
    - Tarpaulins/covers
    - Curing agent applicator
    - Steam generator
    - Wheelbarrow
    - Tamping rods
    - Screed boards
    - Edging tool
    - Brooms

6. Personal protective equipment:

    - Safety goggles/glasses
    - Respirators
    - Ear muffs and safety boots
    - Boots
    - Waterproof pants and jacket

7. Corrective actions:

    - Reporting and rectifying discrepancies
    - Complying with company procedures
    - Rectifying workability and grade of concrete
    - Warning others of present or impending dangers

8. Concrete may be transported to placement area and placed by the following methods:

    - Directly from pre-mix truck
    - Wheelbarrow
    - Buckets
    - Shovels

9. Concrete work includes placement of concrete onto:

    - Foundation
    - Slab and decking
    - Retaining walls

10. Concrete may be cured by:

    - Atmospheric conditions
    - Applied moisture
    - Applied agents

11. Relevant concrete tests:

    - Slump test for water content
    - Preparing cylinders/cube compression for testing

12. Waste material and debris:

    - Concrete spillage
    - Excess concrete
    - Pieces of timber
    - Empty containers
    - Cardboard and paper

13. Concrete may be finished by:

    - Steel float
    - Bull floats
    - Wood float
    - Broom

14. Work practices:

    - Follow company instructions and procedures and official guidance
    - Co-ordinate concrete work with works of other trade areas
    - Co-ordinating the placement of concrete to structures by measuring, receiving, placing, compacting, finishing, protecting and curing
    - Co-ordinate the use and maintenance of hand and power tools and equipment
    - Adapting safe working practices
    - Complete documentation
    - Co-ordinating cleaning up and disposing of waste
    - Co-ordinating the storage and security of tools, equipment

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Workplace and equipment safety requirements
2. Information relating to drawings, specifications, schedules
3. Names, characteristics, uses and limitations of materials relating to the concreting process
4. Defects, workability, durability, quality and appearance of materials
5. Types, uses, limitations of hand and power tools and equipment
6. Defects in materials and equipment which are caused naturally, by manufacture, by workmanship and by the environment
7. Calculations for quantities and measurements relevant to concrete work
8. Methods of sampling concrete and of testing workability and strength of concrete
9. Methods of placing, compacting, finishing and curing concrete
10. Reasons for compacting and curing concrete
11. Construction joints
12. Methods of identifying hazards when placing concrete
13. Materials handling, transporting and placing of concrete
14. Formwork and reinforcement component

Candidates should know how to:

1. Read and interpret technical documents
2. Identify contract requirements
3. Select equipment appropriate to concreting process
4. Write report
5. Carry out oral and written communication
6. Measure and calculate dimensional specifications
7. Make decision

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects and Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable to concrete work andworkplace operations.
2. Adhere with organisational policies and procedures including quality assurance requirements.
3. Interpret information relevant for the placement of concrete to the range of structures.
4. Plan, organise and adopt safe and healthy working practices.
5. Co-ordinate the selection and preparation of materials, tools and equipment.
6. Co-ordinate the placement, testing, compaction, finishing, curing and protection of concrete.
7. Provide technical advice and leadership to workers.
8. Interactively communicate to support team and ensure safe and effective workplace operations.
9. Give particular attention to placement of reinforcement and compaction and curing processes of concrete.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Organisation policies and guidelines.
2. Access to relevant resource personnel.
3. Relevant legal and statutory documentation.
4. Hand tools and power tools appropriate to concreting process.
5. Plant and equipment appropriate to concreting process.
6. Suitable formwork with placed reinforcement appropriate to concreting process.
7. Concrete testing equipment.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Project.
6. Observation of work processes.
7. Case study.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCMCSS0833A: Supervise Tilt-up Work

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to organise, coordinate and supervise tilt-up work on site. The erection of tilt-up pre-cast concrete panels requires the application of highly structured processes and the application of safe work practices. This unit of competency supports the needs of site supervisors and builders with a responsibility for supervising tilt-up work on site.

Competency Field: Construction Site Management

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Provide Effective Administration	1.1 Check or obtain licences and approvals required for tilt-up and prepare work plan.
	1.2 Notify relevant regulatory authorities where necessary.
	1.3 Obtain copies of all structural and design documents, pre-cast panel shop drawings, layout plans and other documents and store on site and access as required.
	1.3 Check details of persons assigned to perform tilt-up work to ensure relevant competency licences are held and regulatory training requirements have been met.
2. Plan and Set Up Site	2.1 Provide site security, amenities, services and emergency/first aid facilities and prepare associated site procedures.
	2.2 Review the requirements for footings, structural elements, concrete slabs and site access roads for the tilt-up work.
	2.3 Plan concrete panel casting and delivery sequence to support the work sequence and consider curing times for the concrete panels.
	2.4 Develop traffic management and public safety plans and procedures.
	2.5 Plan exclusion zones for concrete panel delivery, casting and erection operations.

		2.6 Identify ground conditions such as soak-wells and drains likely to affect crane stability.
		2.7 Check crane standing areas for strength and compaction and consult crane suppliers to identify and record crane operating locations.
		2.8 Prepare and implement a work site plan specific to OH&S management and apply OH&S risk control measures.
3.	Organise and coordinate tilt-up work	3.1 Coordinate delivery sequence for concrete panels cast off site, or a casting and curing schedule and distribution of panels on site.
		3.2 Place and store concrete panels in accordance with engineer's requirements.
		3.3 Check concrete panel inspection records to confirm design specifications have been followed during panel fabrication and manufacture.
		3.4 Clear erection areas, set-up exclusion zones, erect barriers and advise site personnel of restricted access areas prior to erection of concrete panels.
		3.5 Check the fixings and anchor bolts supplied for temporary bracing for compliance with designer and engineer specifications.
		3.6 Fix correct type of braces to panels prior to lifting and locate and place dowels and shims correctly; position and prop components in accordance with shop drawings or as approved by the engineer.
		3.7 Undertake the supervision of safe work method statements, safe systems of work and safe work practices, drawings, specifications and engineering details to ensure the required procedures are followed by workers and contractors during the erection of the concrete panels.
		3.8 Identify hazards, assess risks and create safe systems in the event of unanticipated circumstances, job safety analysis and other tools.

4. Confirm Tilt-Up Stabilisation	4.1 Check erected concrete panels for compliance with design and engineering specifications.
	4.2 Check structural steel elements fixed to the temporarily braced panels to ensure that they are in accordance with designed engineering specifications.
	4.3 Erected structure is inspected by an engineer and certified as being sound prior to the removal of temporary bracing from concrete panels in accordance with the relevant regulatory requirements.
	4.4 Remove braces methodically, with temporary bracing and stack or remove other erection elements from site.
	4.5 On completion of the erection work, clear work areas before other trades are permitted to enter exclusion zones
	4.6 Notify relevant personnel of work completion and maintain site records and company requirements in accordance with work completion procedures.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Licences and approvals include:
    - Building licenses
    - Notification and approval, which may be required under OH&S legislation for tilt-upwork
2. Regulatory training requirements refer to:
    - Induction and training, which may be required under OH&S legislation for tilt-upwork
    - Induction and training in accordance with the National Standard for Construction Work and National Code of Practice for Induction for Construction Work
3. Safe work method statements refer to:
    - Requirements of the National Standard for Construction Work
4. OH&S management plan refers to:
    - Requirements of the National Standard for Construction Work

5. Emergency/first aid:
   - Emergency shutdown and stopping
   - Extinguishing fires
   - OH&S first aid, emergency and evacuationrequirements

6. OH&S risk control measures refer to:
   - Control measures required by different site and soil conditions
   - Control measures required by other site conditions, such as working with surrounding structures, restricted site access conditions, traffic control
   - Issues and working in proximity to others,including work site visitors and the public
   - Those in accordance with OH&S standards,regulations and codes of practice
   - Trip hazards, noise, working with dangerous materials, manual handling, working in confined spaces, working at height, and electrical hazards such as overhead cables and conduits

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. National Standard for Construction Work and National Code of Practice for Induction for Construction Work
2. Capacity and limitations of plant, lifting gear and equipment used in tilt-up work, including associated safe systems of work
3. Capacity and limitations of rigging and equipment, including use of load charts
4. Grouting, bracing, torquing, stabilisation and fixing work practices
5. Hazard identification and the formulation of safe work method statements and safe systems of work, which include those for safe work at height (fall arrest equipment and scaffolding and access equipment)
6. interpretation of plans, drawings and specifications for tilt-up work
7. National Code of Practice for Precast, Tilt-up and Concrete Elements in Building Construction, OH&S regulations, as related to the supervision of tilt-upwork

Candidates should know how to:

1. Enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
2. Communicate safe systems of work and safe work practices are followed
3. Facilitate discussion of workplace hazards and risks
4. Read, interpret and apply information from:
   - Design specifications
   - Legislative requirements
   - Plans
   - Procedures
   - Tilt-up guidance material
5. Use and interpret non-verbal communication
6. Apply writing skills to complete:
   - Memos
   - Safe work and OH&S management plans
   - Safe work method statements
   - Schedules
7. Site records

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Access and apply legislative requirements.
2. Identify OH&S hazards and assess and control OH&S risks associated with the tilt-up construction process.
3. Prepare the site OH&S management plan.
4. Plan, prepare and carry out the tilt-up construction process and implement state or territory legislative requirements and guidance material.
5. Identify potential hazards and interpret and apply information from plans, specifications, drawings and procedures.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

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

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Project.
6. Case study.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCMFLS0063C: Co-ordinate Servicing and Maintenance of Tools and Equipment

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to prepare a maintenance schedule and co-ordinate the activities relating to the servicing and maintenance of construction tools and equipment.

Competency Field: General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and Prepare Work	1.1 Adhere to quality assurance requirements with company's operations.
	1.2 Adhere to OH&S requirements in accordance with application tasks formaintenance and operation of tools and machinery.
	1.3 Identify equipment, service manuals and relevant standards and codes of practice.
	1.4 Where required, prepare maintenance schedule of equipment prepared according to company requirements.
	1.5 Select servicing and maintenance tools and equipment in consistent with requirements for the range of tasks to be carried out.
	1.6 Servicing and maintenance tools and equipment are in good working condition and are readily available to meet scheduled or unscheduled servicing and maintenance needs.
	1.7 Select appropriate personal protective equipment for workers.
2. Co-ordinate Servicing and Maintenance Tasks	2.1 Conduct inspection and fault-finding in accordance with operator's manual and/or site requirements.
	2.2 Select appropriate replacement parts and materials according to job requirements and manufacturer's manual.
	2.3 Where necessary remove worn/defective parts and check to confirm status.

2.4 Conduct routine operational servicing, lubrication and housekeeping tasks manufacturers' and/or site requirements.

2.5 Minor maintenance carried out to manufacturers' and/or site requirements.

2.6 Provide support if required, during preparation for, and conducting of major maintenance tasks.

2.7 Record maintenance work accurately in accordance with company guidelines.

2.8 Records are complete, accurate, clear and accessible.

2.9 Systems/components, which may affect the future safety of equipment, are reported in accordance with company policy and procedures.

2.10 Evidence of lead-role is demonstrated in providing technical directives and supervision to work team(s).

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Quality assurance requirements:

    - Workplace operations and procedures
    - Quality of materials
    - Control of handling procedures
    - Use and maintenance of equipment
    - Attention to specifications of manufacturer
    - Attention to guarding and OH&S requirements

2. OH&S requirements are to be in accordance with relevant statutory regulations:

    - Workshop/worksite safety practices
    - Control of noise and dust
    - Use of ladders and working platforms
    - Control of exhaust emission
    - Isolation of work areas

3. Service/maintenance tools and equipment:

    - Hammers
    - Spanners – ring, open-end
    - Screwdrivers – standard, Phillips
    - Allen keys
    - Hydraulic lift jacks
    - Grease guns
    - Oil cans
    - Brushes
    - Levers

4. Components for servicing:

    - Belts and chains
    - Controls, levers, cables
    - Clutches and brakes
    - Wheels and tracks attachments
    - Blades and cutters
    - Engines
    - Pipes and hoses
    - Gear boxes and shafts

5. Equipment to be maintained:

    - Air compressor and hoses
    - Concrete mixer
    - Industrial wet and dry vacuum cleaner
    - Pallet trolley
    - Rollers
    - Compactors
    - Pumps and hoses
    - Brick/masonry saw
    - Terrazzo grinders
    - Ladders
    - Trestles and planks
    - Wheelbarrows
    - Skid-steer
    - Other specified construction equipment

6. Records:

    - Timesheets
    - Service records
    - Company initiated records
    - Parts/materials used

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Workplace and equipment safety requirements including relevant regulations,codes and standards
2. Construction tools, equipment and machines and their operation
3. Machine manufacturer's specifications
4. Use of tools and equipment relevant to maintenance of machines
5. Organisation's quality assurance requirements
6. Maintenance of equipment and machines

Candidates should know how to:

1. Work safely
2. Plan and organise work
3. Interpret manuals
4. Prepare for work application
5. Solve problems
6. Effectively communicate verbally with others within a team environment
7. Develop/interpret a maintenance schedule
8. Coordinate the servicing and maintenance of tools and equipment

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable to workplaceoperations.
2. Develop/interpret a maintenance schedule.
3. Interactively communicate with others to ensure effective operations.
4. Indicate compliance with organisational quality procedures and processes within context of maintaining construction tools and equipment.
5. Select appropriate processes, materials/supplies, tools and equipment to carry out tasks.
6. Provide technical advice and co-ordination in servicing and maintaining construction plant, machinery and auxiliary equipment.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Workplace location.
2. Materials appropriate to application activity.
3. Appropriate documentation related to tasks.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Observation of work processes.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

BCGBCD0203B: Demonstrate Knowledge of Building Services Systems

Competency Descriptor: This unit deals with the skills, knowledge and attitudes required to apply the knowledge of building service systems to construction application.

Competency Field: Construction Draughting

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Examine the Requirements for the Supply of Cold and Hot Water in Low-Rise Commercial Buildings	1.1 Explain requirements for cold water supply systems.
	1.2 Explain requirements for hot water supply systems.
	1.3 Produce schematic drawings for cold and hot water services systems for a given low-rise commercial building.
2. Examine and Justify a Suitable Ventilation and Simple Air Conditioning System for a Low-Rise Commercial Building	2.1 Justify the selection of a suitable ventilation system for a given low-rise commercial building.
	2.2 Justify the selection of a suitable simple air conditioning system for a given low-rise commercial building.
	2.3 Identify materials and components required for the selected ventilation and air conditioning systems.
3. Examine the Requirements for the Provision of Electrical Supply Systems in Low Rise Commercial Buildings	3.1 Describe the functional requirements and design requirements of electrical supply systems in low-rise commercial buildings.
	3.2 Describe the design and installation of communication systems.
	3.3 Produce schematic layouts of the electrical supply systems and communication system for a given low-rise commercial building.

4. Examine the Requirements for the Installation, Operation and Maintenance of Services Plant and Equipment in Low Rise Commercial Buildings	4.1 Describe provision of plant and associated equipment required for the installation of cold and hot water supply systems in low rise commercial building.
	4.2 Describe provision for plant and associated equipment required for the installation of mechanical ventilation and simple air conditioning system.
	4.3 Assess the need for provision of on-site electrical substations and control rooms to support electrical supply systems.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Requirements for cold water supply systems:
   - Byelaws
   - Capacity of building
2. Requirements for hot water supply systems:
   - Energy load
   - Energy conservation
3. Cold water supply system:
   - Mains
   - Storage
   - Distribution
   - Equipment sizing
   - Pipe work sizing
   - Materials
   - Components
4. Hot water supply system:
   - Direct
   - Indirect
   - Storage
   - Distribution
   - Plant sizing
   - Pipe work sizing
   - Materials
   - Components

5. Schematic drawings:

    - Isometric layouts (hot water system, cold water system, location of components, identification of components, location of controls)
    - Conventions (standard methods, systems)

6. Provision of plant and associated equipment:

    - Storage vessels controls for maintenance
    - Controls for replacement
    - Access to equipment
    - Safety (risks of contamination, requirements of water byelaws)
    - Access (maintenance, cleaning,inspection)
    - Loading imposed on the structure of the building

7. Ventilation systems:

    - Mechanical extract and natural input
    - Mechanical input and natural extract
    - Mechanical extract and mechanical input
    - Independent fans
    - Ducting arrangements

8. Selection criteria for mechanical ventilation systems:

    - Considerations of volume of air to be moved
    - Number of times per hour
    - Statutory ventilation requirements
    - Energy implications

9. Air conditioning systems:

    - Central station
    - Packed systems
    - Split systems

10. Selection criteria for air conditioning systems:

    - Psychometric data application of vapour compression systems of refrigeration

11. Electrical supply systems:

    - Circuits (distributions networks, lighting subcircuits, power sub circuits, control sub circuits)
    - Components (distribution controls, circuit controls, sub circuit controls related to other service systems)

12. Materials and components required:

    - Ducts
    - Fans
    - Attenuators
    - Dampers
    - Filters
    - Cooling batteries
    - Heating batteries
    - Humidifiers
    - Insulation
    - Support fixings
    - Hangers
    - Brackets

13. Communication systems:

- Telephone
- Facsimile
- Radio
- Cable and satellite systems
- Paging systems
- Computer networks

14. Design requirements of electrical supply systems:

- Capacity of system
- Facilities for maintenance
- Facilities for repair
- Facilities for replacement
- Facilities for expansion
- Safety considerations for the user
- Layout sketches and drawings

15. Communication design:

- Location
- System separation
- Ease of access
- Security of systems

16. Communication installation:

- Cable trays
- Trucking
- Ease of identification
- Access for maintenance
- Access for repair

17. Calculation:

- Air Conditioning sizing
- Capacity demand of water based on occupancy and usage
- Lumens
- Voltage demand based on load requirement

18. Functional requirements of electrical supply systems:

- Practical installation considerations (e.g.,safety for the installer)
- JS21 or latest regulations
- National Electrical Code

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Requirements for cold water supply systems installation: byelaws, capacityof building, energy load, energy conservation
2. Ventilation systems and operating principles
3. Air conditioning systems and operating principles
4. Electrical supply systems and components
5. Types and characteristics of materials and components required
6. Communication systems, operations and installation requirements.

Candidates should know how to:

1. Identify cold and hot water systems requirement
2. Read and interpret schematic drawings
3. Identify ventilation and air conditioning requirements for low rise residential building
4. Identify communication types and principles of operation
5. Identify materials requirements for ventilation, electrical, air conditioning, communication and water systems

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Comply with OH&S regulations applicable to workplaceoperations.
2. Apply organisational management policies and procedures including quality assurance requirements where applicable.
3. Read and interpret drawings and specifications.
4. Identify requirements for cold water and hot water supply systems.
5. Make the provision for plant and associated equipment required for cold and hot water supply systems in low-rise commercial building.
6. Make provision made for plant and associated equipment required for the installation of mechanical ventilation system.
7. Make the provision for plant and associated equipment required for the installation of simple air conditioning system.
8. Identify the required materials and components.
9. Assess the need to provide on-site electrical substations and control rooms to support electrical supply systems.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Building and construction data.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.
5. Project.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRICOM0013B: Apply Advanced Language and Communication Skills

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to apply the proper use of grammar for sentence construction and written reports. It also includes the application of the mechanics of vocabulary, spelling and concepts, critical thinking skills, and technology to further improve the writing skills. This unit is applicable to all sectors.

Competency Field: Communication

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA	
1. Apply the Fundamentals of Grammar Usage	1.1	Identify the different parts of speech and use them correctly.
	1.2	Identify the different tenses and use appropriately.
	1.3	Apply knowledge of the different types of nouns.
	1.4	Identify and use the correct forms of verbs appropriately.
	1.5	Identify the different kinds of phrases and use them appropriately.
	1.6	Apply knowledge of types of sentence construction.
	1.7	Construct sentences showing correct subject and verb agreement.

1.8 Construct sentences showing agreement between pronouns and the antecedents.

1.9 Construct sentences using different subordinate clauses.

1.10 Construct sentences using verbs in their active and passive voice.

1.11 Identify the different parts of speech and use them correctly.

1.12 Apply knowledge of the correct use of other parts of speech.

1.13 Identify and correct sentence faults.

1.14 Demonstrate knowledge of the types and functions of expanded sentences.

1.15 Identify and construct compound-complex sentences.

1.16 Construct sentences using different subordinate clause and coordinating conjunctions.

1.17 Construct concise sentences using the reduction method.

		1.20	Identify the accurate sequence for using tenses and apply appropriately.
		1.21	Demonstrate the correct usage of parallelism, modifiers and coordinate them in sentences.
		1.22	Apply the conventions of concord in sentences.
		1.23	Construct sentences showing verbs in their active and passive voice.
		1.24	Identify and correct the common faults in sentences.
2.	Apply Mechanics, Vocabulary and Spelling	2.1	Apply knowledge of rules governing the use of capitalisation, punctuation, and abbreviation.
		2.2	Use punctuation marks in written exercises correctly.
		2.3	Identify abbreviations and use as related to skill area.
		2.4	Identify and apply the spelling rules.
		2.5	Interpret word meanings through context clues and industry standards.
		2.6	Spell words correctly and interpret their meanings through context clues and industry standards.
		2.7	Use punctuation marks correctly in written exercises.

		2.8	Identify abbreviations and use them in the relation to skill area.
		2.9	Form new words by adding suffixes and prefixes to the roots of an existing word.
		2.10	Spell words without confusing suffixes.
3.	Develop listening/speaking skills	3.1	Demonstrate active listening skills.
		3.2	Respond during a read aloud, presentation or performance from a variety of literature and styles.
		3.3	Analyse character development and setting.
		3.4	Determine tone, voice, and mood to make connections to text.
		3.5	Listen, respond, analyse, and discuss complex instructions.
		3.6	Construct complex sentences and statements.
		3.7	Formulate closed and open-ended questions.
		3.8	Use appropriate language structures and a variety of language patterns, to state opinions in discussions and presentations.
		3.9	Explain the main idea or topic and important details from learned concepts or readings.
		3.10	Analyse, compare, and contrast, and summarise, a topic from a variety of texts using appropriate language structure.

4.	Develop Reading and Critical Thinking Skills	4.1	Analyse context clues, reference sources and other vocabulary expansion strategies to assess word meaning using prior knowledge to relate to new meaning.
		4.2	Analyse character traits and setting and classify point of view in fiction and non-fiction.
		4.3	Identify the between first- and third-person point of view.
		4.4	Identify plot to establish cause and effect relationships.
		4.5	Make connections, predictions, inferences to draw conclusions and classify conflicts in narrative, expository and persuasive texts.
		4.6	Identify fact and opinion in narrative and expository text.
		4.7	Paraphrase main idea and select important details.
5.	Develop Writing Skills and Communicate Concepts	5.1	Identify the essential characteristics of a paragraph.
		5.2	Develop paragraphs from given information.
		5.3	Identify and expand main points in a written document correctly.
		5.4	Develop techniques for preparing summaries.
		5.5	Identify types of written communication to include letters, memoranda, and reports.

		5.6	Complete job-related written forms as required within the specified time frame.
		5.7	Cite references as required.
		5.8	Write concepts using appropriate sentence construction techniques, mechanics, vocabulary/terminology and, where required, industry jargon.
		5.9	Develop concepts that are coherent and based on analysis or research undertaken.
		5.10	Write concepts using essay writing techniques.
		5.11	Base conclusions on facts and make recommendations if required.
		5.12	Develop techniques for preparing summaries.
6.	Develop Oral and Visual Communication Skills	6.1	Identify the purposes of oral and visual communication to determine how best the subject matter can create the desired impact.
		6.2	Identify the various methods of non-verbal communication and use where appropriate.
		6.3	Use appropriate tools and devices to communicate effectively orally.
		6.4	Communicate orally with others in clear, accurate and suitable language in accordance with industry and workplace standards.
		6.5	Apply active listening to clarify and confirm oral instructions.

		6.6	Use visual communication that follows accepted industry practice or social convention.
7.	Communicate Using Workplace Documents and Correspondence	7.1	Present written information and ideas in clear and concise language to ensure the intended meaning of correspondence is understood by the recipient.
		7.2	Draft and present correspondence within designated timelines.
		7.3	Confirm presentation of written information meets organisational standards of style, format, and accuracy.
		7.4	Complete workplace forms and documents in a clear, concise, and easy to read format.
8.	Communicate in a way that Responds Positively to Individual Differences	8.1	Value all individuals and treat them with respect, courtesy, and sensitivity.
		8.2	Consider cultural differences in all verbal and non-verbal communication.
		8.3	Use communication to develop and maintain positive relationships, mutual trust, and confidence.
		8.4	Make effort to use basic strategies to overcome language barriers.
		8.5	Exemplify behaviour that is consistent with legislative requirements, organisation guidelines and/or social protocols.

9.	Communicate Within the Work Team	9.1	Display effective interpersonal skills and demonstrate courtesy and helpfulness to other team members.
		9.2	Consider others and complete task allocated without undue delay.
		9.3	Seek assistance from other team members when difficulties arise.
		9.4	Identify the lines of communication with supervisors and peers according to organisational policy.
		9.5	Provide constructive feedback to other team members in the work group.
		9.6	Use questioning techniques to minimise misunderstandings.
		9.7	Identify signs of potential workplace conflict.
		9.8	Participate in team problem solving.
10.	Communicate Effectively	10.1	Use transitional words, phrase, and clause to connect ideas when constructing complex sentences.
		10.2	Analyse word choice to convey intended meaning.
		10.3	Apply appropriate grammar, structure, and a variety of syntactic styles to writing.
		10.4	Apply organisational patterns and the elements of descriptive, narrative, expository and persuasive forms of writing to construct a composition.

	10.5	Use basic editing marks, reference sources and revising techniques to verify information.
	10.6	Use the writing process to prepare a final draft.
	10.7	Use transitional words, phrase, and clause to connect ideas when constructing complex sentences.
	10.8	Analyse word choice to convey intended meaning
	10.9	Outline the principles of effective communication
	10.10	Prepare formal reports and speeches
	10.11	Practice clear and logical reasoning
	10.12	Discuss barriers to communication
11. Use Technology	11.1	Use multi-media projector and computer to assist in the delivery and presentation.
	11.2	Use technology to store, retrieve and process information.
	11.3	Use the information systems to access and communicate information.
	11.4	Research and communicate information appropriately.
	11.5	Use current technology that follows industry convention during oral interaction

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Readings:

    - A variety of literature
    - A specific period
    - Genres
    - Fiction
    - Non-fiction

    - Language structure and patterns may be used to:

    - Explain text
    - Discuss topics and themes
    - Express thoughts and opinions to analyse plot
    - Solve problem for solutions
    - Make predictions and inferences
    - Draw conclusions from listening to a variety of texts and multimedia sources
    - Grammar and usage may include:
    - Parts of speech
    - Parts of a sentence
    - Types and functions of sentences (e.g., simple and compound)
    - Phrases and their functions
    - Subordinate clauses (adverbial adjectival, noun)
    - Rules for subject-verb agreement (focus on indefinite pronoun as subject; collective noun as subject)
    - Pronouns and their antecedents
    - Verbs: action, linking, regular, irregular
    - Tenses: present, past, future, present perfect, past perfect, future perfect
    - Adjectives and adverbs
    - Sentence faults: fragments and run-ons

2. Apply language structures to:

    - Solve problems
    - Explain a process
    - Express opinions integrating comparison and contrast statements
    - Analyse presentations

4. Mechanics, vocabulary, and spelling:

    - Rules governing the use of capitalisation,punctuation, and abbreviation
    - Punctuation marks: end marks, commas,semi-colon and colon, quotation marks, dashes and parentheses, hyphen, apostrophes
    - Abbreviations: symbols, measurements, time, number
    - Spelling words and interpretation of their meanings through context clues and word analysis, prefixes, suffixes, root (focus on words used in skill area)

5. New word meaning may be derived from:

    - Uses of prefixes
    - Uses of suffixes
    - Root words to determine the meaning of unfamiliar word
    - Multiple meaning
    - Compound words

6. Visual communication:

    - Establishing communication
    - Lateral and vertical movement direction
    - Other signals appropriate to the task and workplace
    - Request for a face-to-face meeting
    - Stop or cancel last communication

7. Communication skills:

    - Effective listening skills (eliciting feedback, developing objectivity, learning to empathise
    - Kinds of communication barriers
    - Clear logical reasoning
    - Identification and evaluation of propaganda techniques
    - Formal report/speech
    - Purposes/goal for written visual and oral communication
    - Methods of non-verbal communication
    - Oral/written instructions
    - Use of telephone, fax machine, advertisement
    - Use of statistics and graphical presentation
    - Differentiating between facts and opinions

8. Writing skills:

    - Methods of paragraph development – chronological, order of importance, spatial order, comparison, or contrast
    - Paragraphs with – topic sentences and supporting sentences, unity, and coherence,
    - Linking expressions and connectives,
    - Sentence length and structure
    - Different types of reports and letters –styles and format
    - Filling out of job-related forms
    - Writing of resume
    - Preparation of notices

9. Oral communication with others is an integral part of routine work that includes communication with supervisors, co-workers, and clients:

    - Languages other than English
    - Oral (face to face or remote)
    - Signage
    - Visual or written
    - Must include:
    - Acknowledgments
    - Oral communications media, including:
    - Face to face
    - Indirect method, such as phone or two-way radio
    - Requests for information
    - Safety briefings
    - Work instructions

10. A report:

    - Is used to denote any required written communication that goes beyond a simple recording of facts (such as completion of a shift production schedule) to include level of analysis and/or research
    - May be of a technical nature and it should be based on the writer having technical knowledge. Conclusions and/or recommendations, where required, are based on research or analysis of data
    - Includes graphs, charts, tables, etc. as required
    - Analysis and conclusions should be consistent with the level of skill and knowledge of the employee working at that level

11. Interpersonal communication skills:

- Goal setting
- Effective communication practice
- Good customer service
- Oral and written presentation techniques

12. Other parts of speech:

- Adjectives
- Adverbs
- Prepositions
- Conjunctions

13. Written communication:

- Dockets and order forms
- Emails
- Equipment logs
- Equipment operator instructions
- Input and output documents
- Personnel records
- Plans, drawings, and specifications
- Schedules and rosters
- Servicing checklists
- Site safety statistics
- SMS text
- Training records
- Work instructions and procedures
- Work safety procedures or equivalent
- Work signage

14. Visual communication skills:

- Body language
- Gestures
- Facial expressions
- Sign language
- Signs
- Graphs, charts et cetera

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills for the unit

Candidates should know and understand:

1. Reading strategies
2. Listening skills and techniques
3. Critical thinking skills
4. Literary analysis
5. Writing process
6. Communication process
7. Narrative and expository text
8. Different kinds of verbs
9. Kinds and functions of phrases and clauses
10. Sentence construction
11. Methods of paragraph development
12. Mechanics, vocabulary, and spelling
13. Writing styles (technical or non-technical)
14. Business letters, job related reports and summarising information
15. The eight parts of speech
16. Grammar and usage
17. Types and parts of sentences
18. Types of paragraphs
19. Rules of mechanics, vocabulary, and spelling
20. Writing styles (technical or non-technical)
21. Summarisation skills
22. Reports including graphs, charts, tables
23. Industry-relevant technology to support oral communication
24. Industry terminology
25. Personnel records and their maintenance.
26. Standardised signage
27. Visual signaling procedures
28. Workplace documentation requirements
29. Workplace English

Candidates should know how to:

1. Communicate concepts in writing
2. Identify main points
3. Expand main points
4. Communicate effectively in the workplace
5. Apply language and communication skills (orally and in writing) in the workplace
6. Apply instructions that are conveyed in the workplace
7. Apply work schedules, charts, bulletins and use memos internally

EVIDENCE GUIDE

The Evidence Guide relates directly to the Performance Criteria and the Range Statements for the unit of competency and will inform and provide guidance for assessment of the unit in the workplace and/or training program.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Apply basic grammar and mechanics to write complete declarative and interrogative sentences of three to five words in length.
2. Write words phrases and simple sentences to develop descriptive and narrative three sentence paragraphs.
3. Use the dictionary as an aid in the writing process and use simple prewriting techniques to generate ideas.
4. Apply common spelling patterns and structural analysis to correctly spell words.
5. Apply correct capitalisation and punctuation marks in declarative and interrogative sentences.
6. Use the appropriate language and communicate effectively in the workplace.
7. Use effective writing style and identify and expand main points.
8. Communicate information about processes, events or tasks being undertaken to ensure asafe and efficient working environment.
9. Use appropriate communication techniques, practices, and processes.
10. Follow accepted workplace procedures.
11. Apply the effective uses of the English language to interpret an oral input and construct meaning.
12. Use the language to interact with confidence both verbally and non-verbally.
13. Express ideas effectively in a variety of personal, social, and academic contexts.
14. Apply reading strategies, literary analysis and critical thinking skills to construct meaning and develop understanding.
15. Use all forms of writing to communicate to a variety of audiences.
16. Construct sentences and apply the proper use of grammar to include:
    - Different subordinates.
    - Show agreement between pronouns and antecedents.
    - Using verbs in both active and passive voice.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to

1. Policies, procedures.
2. Range of sample documents relating to developing writing skills and styles of writing.
3. Literature on grammar and concepts.
4. Office equipment and resources.
5. Case studies.
6. Real situations and interaction with others.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current, and authentic.Evidence can be gathered through a variety of ways, including:

1. Practical demonstration.
2. Oral/written questions.
3. Project.
4. Case study.
5. Third party report.

(4) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage thecandidate.

BCGCUS0013B: Provide Customer Service in Construction

Competency Descriptor:

This unit deals with the knowledge, skills and attitudes required to provide customer service in construction. It includes contributing to customer service systems, delivering reliable customer service and monitoring customer service.

Competency Field: Customer Service

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Contribute to Customer Service Systems	1.1 Identify and use current and official guidance to implement systems or procedures that will deliver and improve customer service.
	1.2 Record how problems would be dealt with within existing customer service systems or procedures.
2. Deliver a Reliable Service	2.1 Prepare to deal with customers in order to give consistent and reliable service.
	2.2 Work with others to resolve customer problems, communicate with customers and check that they are satisfied with the actions taken.
	2.3 Solve problems within existing systems or procedures that may affect customers before the customer becomes aware of them.

3. Monitor Customer Service	3.1 Confirm that the service given meets the customer's needs and expectations.
	3.2 Review records showing that the service given has met the customer's needs and expectations.
	3.3 Inform the people responsible about changes to customer service systems or procedures that will reduce the chance of problems being repeated.
	3.4 Share information with people responsible to maintain and improve standards of service delivery.
	3.5 Record information that will maintain and improve standards of service delivery shared with people responsible.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Organisation procedures:

    - Records of consistent customer service
    - Records of reliable service that promotes customer's confidence
    - Records of checks to ensure that the customer is satisfied with at least two of following actions taken:
        - Corrective
        - Referral
        - Investigative
        - Reactive
        - Proactive

2. Communicate with customers:

    - Electronic
    - Verbal
    - Written
    - Via a second person
    - Group meetings

3. Organisation's system or procedures:

    - Current legislation
    - Official guidance
    - organisational procedures
    - Specifications
    - Drawings
    - Instructions and variations
    - Feedback processes

4. People responsible:

    - The client, customer or their representative
    - Contractors
    - Consultants
    - Sub-contractors
    - Workforce
    - Internal management

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Identify current legislation and official guidance relevant to customer service
2. Systems or procedures to give reliable customer service
3. How to work with others to resolve customer problems
4. How to communicate with customers
5. How to check that the customer is satisfied with the action taken
6. How to solve problems within systems and procedures
7. How to identify problems within existing systems or procedures that may affect customers
8. How to ensure problems in systems or procedures are solved before the customer becomes aware of them
9. Confirm the service meets customer needs
10. Inform people of changes
11. Share information
12. How to improve standards of service delivery

Candidates should know how to:

1. Use identified information to implement systems or procedures for customer service
2. Deliver and improve customer service
3. Give consistent customer service
4. Use systems or procedures to give reliable customer service
5. Maintain standards of service delivery
6. Work with others to resolve customer service problems
7. Identify repeat problems in customer service
8. Improve standards of service delivery
9. Maintain standards of service delivery

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Implement at least four of the following systems or procedures that will deliver and improve customer service:
   - Current legislation.
   - Official guidance.
   - Organisational procedures.
   - Specifications.
   - Drawing.
   - Instructions and variations.
   - Feedback processes.
2. Resolve customer problems using at least two of the following forms of communication methods:
   - Electronic.
   - Verbal.
   - Written.
   - Via a second person.
   - Feedback documents.
3. Communicate with customers to confirm that the service given meets the customer's needs and expectations check that the customer is satisfied with the action taken.
4. Share information with people responsible in order to maintain and improve standards of service delivery.
5. Solve problems in systems or procedures before the customer becomes aware of them.
6. Change customer service systems or procedures to reduce the chance of problems being repeated.
7. Inform the people responsible about changes to customer service.
8. Record changes to systems or procedures that will reduce the chance of problems being repeated.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Customer service charter.
2. Organisation procedures.

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways including:

1. Direct observation.
2. Oral/written questioning.
3. Practical demonstrations.
4. Third party report.

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CRIMAT0013B: Perform Advanced Mathematical Computations

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to manipulate numbers and equations to develop an understanding of the general principles at work. It also includes factoring of numerators, denominators; properties of exponents; algebraic terminology; concepts; developing geometry skills; and applying mathematical reasoning.

Competency Field: Calculations and Computations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Identify the Properties of, and Compute With, Rational Numbers Expressed in a Variety of Forms	1.1 Read, write, and compare rational numbers in scientific notation with approximate numbers using scientific notation.
	1.2 Add, subtract, multiply, and divide rational numbers and take positive rational numbers to whole-number powers.
	1.3 Convert fractions to decimals and percentages and use these representations in estimations, computations, and applications.
	1.4 Differentiate between rational and irrational numbers.
	1.5 Identify rational numbers by terminating or repeating decimal.
	1.6 Convert terminating decimals into reduced fractions.
	1.7 Calculate the percentage of increases and decreases of a quantity.
2. Use Exponents, Powers and Roots in Working with Fractions	2.1 Determine negative whole-number exponents.
	2.2 Multiply and divide expressions involving exponents with a common base.

		2.3	Add and subtract fractions by using factoring to find common denominators.
		2.4	Multiply, divide, and simplify rational numbers by using exponent rules.
		2.5	Use the inverse relationship between raising to a power and extracting the root of a perfect square integer.
		2.6	Determine and explain without the use of a calculator the two integers between which its square root lies.
		2.7	Determine the meaning of the absolute value of a number.
		2.8	Interpret the absolute value as the distance of the number from zero on a number line.
		2.9	Determine the absolute value of real numbers.
3.	Use Algebraic Terminology	3.1	Use variables and appropriate operations to write an expression that represents a verbal description.
		3.2	Use the correct order of operations to evaluate algebraic expressions.
		3.3	Apply properties of rational numbers to simplify numerical expressions and justify the process used.
		3.4	Use algebraic terminology correctly.

4.	Develop Geometry Skills and Concepts	4.1	Select appropriate units of measure and use ratios to convert within and between measurement systems to solve problems.
		4.2	Compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems.
		4.3	Construct and read drawings and models made to scale.
		4.4	Use measures expressed as rates and products to solve problems.
		4.5	Identify and construct basic elements of geometric figures.
		4.6	Use a compass and straightedge to construct basic elements.
		4.7	Use coordinate graphs to plot simple figures; determine lengths and areas related to them, their image under translations and reflections.
5.	Apply Mathematical Reasoning	5.1	Analyse problems and use estimation to verify the reasonableness of the calculated results.
		5.2	Apply strategies and results from simple to more complex problems.
		5.3	Estimate the unknown quantities graphically and solve using logical reasoning, arithmetic and algebraic techniques.
		5.4	Express the solution clearly and logically and use the appropriate mathematical notation and terms.
		5.5	Make precise calculations and check the validity of the results from the context of the problem.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not be limited to:

1. Rational numbers**:**

- Positive and negative powers of 10
- Integers
- Fractions
- Terminating decimals

2. Properties of rational numbers:

- Identity
- Inverse
- Distributive
- Associative
- Commutative

3. Algebraic terminology:

- Variable
- Equation
- Term
- Coefficient
- Inequality
- Expression, constant

4. Examples of verbal descriptions:

- Three less than a number
- Half as large as area A

5. Measures expressed as rates or products:

- Speed
- Density
- Person -days

6. Temperatures within and between measurement systems:

- Miles per hour
- Feet per seconds
- Cubic inches to cubic centimetres

7. Basic elements of geometric figures may relate to:

    - Altitudes
    - Mid-points
    - Diagonals
    - Angle bisectors
    - Perpendicular bisectors
    - Central angles
    - Radii, diameters
    - Chords of circles

8. Analyse problems may include:

    - Identify relationships
    - Distinguish relevant from irrelevant information
    - Identify missing information
    - Sequence and prioritise information
    - Observe patterns

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for the unit

Candidates should know and understand:

1. Factoring of numerators and denominators
2. Linear and nonlinear functions
3. Graph functions
4. Pythagorean theorem
5. Dimensional analysis
6. Geometric sequence
7. Arithmetic sequence
8. Rational/irrational numbers
9. Scientific notation
10. Graphical interpretation

Candidates should know how to:

1. Read and interpret drawings and symbols
2. Use formulas to solve problems
3. Apply geometry concepts and skills
4. Apply mathematical reasoning
5. Operate scientific calculators/devices
6. Perform mathematical computation

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Identify and use the arithmetic properties of:
   - Subsets of integers.
   - Rational/ irrational and real numbers, including closure properties for the four basic arithmetic operations where applicable.
2. Solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
3. Add, subtract, multiply, and divide rational expressions and functions; solve both computationally and conceptually challenging problems by using these techniques.
4. Apply algebraic techniques to solve rate problems, work problems, and percentage of mixture problems.
5. Use properties of the number system to judge the validity of results, to justify each step ofa procedure, and to prove or disprove statements.
6. Perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevant workplace procedures and organisation requirements.

1. Tools
2. Equipment
3. Formulas
4. Sample papers

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including:

1. Practical demonstration
2. Oral and written questions
3. Direct observation
4. Third party report
5. Project

(4) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

ITICOR0033B: Apply Information Technology to Support Work Role

Competency Descriptor: This unit deals with the knowledge, skills and attitudes required to apply information technology to work roles. It includes planning and selecting appropriate software application, handling files, editing, formatting and checking information, and search for and use email. It applies to individuals working across various sectors.

Competency Field: Information Technology

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Apply Information Technology to Improve Productivity	1.1 Plan tasks using appropriate digital tools to achieve the required purpose and outcome.
	1.2 Select appropriate IT software applications for tasks.
	1.3 Navigate the application user interface to achieve the required outcomes.
	1.4 Apply basic file-handling techniques for the software.
	1.5 Use appropriate techniques to handle, organise and save files.
	1.6 Enter, edit and format information using application software according to task requirements.
	1.7 Process, combine and present information using application software according to task requirements.
	1.8 Use file navigation software to organise files into appropriate folder structures and learn how to use software using appropriate help systems.
	1.9 Use relevant tools and applications to improve personal productivity and time management.

		1.10	Use appropriate software facilities for tasks.
		1.11	Test solutions to ensure they work as intended and are fit for purpose.
2.	Edit, Format and Check Information	2.1	Check the accuracy of documents and apply basic editing techniques.
		2.2	Use appropriate editing and formatting tools and techniques for more complex documents.
		2.3	Use proof reading techniques to check that documents look professional.
3.	Search for Information on the Internet or an Intranet	3.1	Use a search engine to find and select appropriate information.
		3.2	Use suitable techniques to make it easier to find useful information again and to pass it on to others.
		3.3	Keep records of where useful information came from and save the results of searches so useful information can be found again.
		3.4	Choose a search engine that is appropriate for the information that is needed and carry out searches.
4.	Send and Receive E-Mails	4.1	Use basic send and reply to commands to delete email.
		4.2	Send and open emails with attachments.
		4.3	Save attachments to appropriate places.
		4.4	Find emails, follow any rules and guidelines for sending and replying to emails.

4.5 Send messages to groups of people using groups set up in an address book.

4.6 Send and receive instant messages with and without attachments.

4.7 Compress messages on sending and un-compress messages that have been received.

4.8 Archive emails where necessary.

RANGE STATEMENTS

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. All range statements must be assessed and may include, but not limited to:

1. Laws and guidelines affect the day-to-day use of IT:
    - Data protection
    - Equal opportunities
    - Disability
    - Health and safety
    - Copyright and guidelines set by your employer or organisation
2. Email facilities:
    - Basic options to send, receive and reply to emails
    - Sending and receiving attachments
    - Using an address book
3. Suitable techniques for finding information may require the use of:
    - Bookmarks
    - Favourites
4. Passing information to others may require:
    - Sending web pages
    - Sending web links via email
5. Health and safety issues:
    - Risks to self in using
    - Risks to others from common hardware
    - Laws and guidelines affect the use of IT
6. Purposes of using IT:
    - Why the IT system and software that was used was appropriate for the task
    - Why and how using the IT system and software was an appropriate way of carrying out the task
7. Problems with exchanging information:
    - Why some computer users may have difficulty in sending and receiving emails with attachments
    - What to do about emails from unknown users
    - What viruses are and the problems they can cause

UNDERPINNING KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this Unit.

Candidates should know and understand:

1. Purposes of using IT
2. IT facilities and range of applications use in the organisation
3. Functionality and features of standard software applications, how and when to use them
4. IT Health and safety issues
5. Email facilities and other resources provided by email software and how to use these
6. What risks there may be in downloading documents and software
7. Risks in sharing information such as personal details
8. What to do about emails intended to cause problems, such as SPAM or chain-mails
9. What limits there may be to the number or size of emails that can be received or stored
10. Laws and local guidelines and conventions for naming and storing files.

Candidates should know how to:

1. Produce information that communicates clearly and accurately with the audience, where and when it is needed
2. Keep difficulties in sending and receiving large emails to a minimum
3. Use basic options to send, receive and reply to emails
4. Send and receive attachments
5. Use an address book
6. Send emails to groups using a group list within an address book
7. Archive and compress emails
8. Use anti-virus software keep risks to a minimum
9. Keep risks to people and hardware to a minimum
10. Use it facilities to improve own performance
11. Avoid viruses

EVIDENCE GUIDE

The Evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, Range Statements and the Assessment Guidelines.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

1. Identify IT tools and resources to support own learning and development.
2. Identify the purpose of different types of software documentation and use them appropriately.
3. Identify reasons and importance why regulations and procedures exist for using IT facilities within the organisation.
4. Locate and organise applications to increase efficiency.
5. Identify the factors and constraints that may affect specific tasks.

(2) Resource Implications

Resource implications may include access to appropriate tools and equipment, relevantworkplace procedures and organisation requirements.

Competency in this unit may be assessed through access to:

1. Application software
2. Computer
3. Organisation procedures

(3) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.Evidence can be gathered through a variety of ways, including:

1. Direct observation
2. Oral/written questioning
3. Practical demonstrations
4. Third party report
5. Work place processes

(4) Context of Assessment

This unit may be assessed on-the-job, off- the-job or a combination of both on and off-the-job. Where assessment occurs off-the-job, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

GLOSSARY OF TERMS

Elements -– The basic building blocks of the unit of competency. They describe the tasks in which competence should be demonstrated in order to carry out the specific function.

Evidence Guide – Critical in assessment as it provides information to Training Providers and Assessors about how the described competency should be demonstrated. It provides a range of evidence for the Assessor to make a determination of competence and defines the assessment context. The Evidence Guide describes: a) Conditions under which the competency must be assessed, including variables such as the assessment environment or necessary equipment; b) Suitable methodologies for conducting the assessment, including the potential for workplace simulation; c) Resource implications, for example access to particular equipment, infrastructure or situations; and d) How consistency in performance must be assessed over time, various contexts and with a range of evidence.

Occupational Standards - Occupational Standards of competence are industry-determined specifications of performance which describe the knowledge, skills and attitudes required by a worker in the performance of a particular role in the workplace. They specify what a person should know and do in order to carry out the functions of a particular job in the work environment. They are the building blocks for all activities in a competency-based training and certification system. An Occupational Standard is made up of a qualification plan, a unit title, elements, performance criteria, range statements, underpinning knowledge and skills and evidence guide.

Performance Criteria – The outcomes of performance required for successful achievement of an element. They specify the required performance in relevant tasks, roles, skills and applied knowledge that enables competent performance.

Qualification Plan –Identifies the Mandatory units that are necessary to deem a candidate competent in the occupational area and provide flexibility in different wok environments. It also contains the Title and Level of the qualification to be awarded.

Range Statement –The essential operating conditions that should be present in training and assessment, depending on the work situation, the needs of the candidate, accessibility of the item and local industry contexts. It lists the parameters in which candidates must demonstrate their competence.

Underpinning Knowledge and Skills – What a person needs to know in order to perform the work in an informed and effective manner. The skills describe the application of knowledge to situations where understanding is converted into a workplace outcome.

Unit Descriptor – Communicates the content of the unit of competency and the skill area it addresses.

Unit Title – A succinct statement of the outcome of the unit of competency. It reflects the major activities or functions of an individual's work as well as the discrete units of work.

National Qualification Framework

LEVEL 1: DIRECTLY SUPERVISED WORKER

Knowledge and Understanding: Basic general knowledge and skills to carry out simple tasks and roles relating to the immediate environment, where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range ofoptions to be applied.

Application and Practice: Uses basic, practical skills to perform repetitive predictable tasks.

Autonomy and Responsibility: Follows simple instructions and completes repetitive basic tasks in familiar contexts.

Life Skills: self-awareness, respects self, others and the environment; communicate personal choice effectively, recognises non-verbal signals of other persons' emotional state; makes simple choices with guidance.

LEVEL 2: SUPERVISED SKILLED WORKER

Knowledge and Understanding: Basic factual knowledge of a field of work or study; basic cognitive and practical skills required; use relevant information in order to carry out tasks.

Application and Practice: Applies the depth and complexity of the underpinning knowledge to a number of areas; follows instructions and completes a range of well-defined tasks; uses relevant tools to perform routine tasks with clear instructions; applies a range of skills and known solutions in a limited range of predictable problems.

Autonomy and Responsibility: Functions in structured contexts, in a limited range of roles under direction and with limited autonomy; Achieves outcomes within time constraints; Solves routine problems with direct supervision; Demonstrates the ability to schedule tasks and accesses a range of learning resources; Takes responsibility for self and has the ability to work in a group.

Life Skills: Expresses self effectively verbally and non-verbally; Responds to written, spoken or visual messages in a manner that ensures effective communication; Uses communication technology in a socially appropriate manner; Makes and promotes healthy lifestyle choices; Has a sense of identity and displays positive social behaviour; expresses emotions appropriately; makes morally appropriate choices; collaborates positively and demonstrates tolerance when interacting with others; assumes some sense of responsibility for shaping one's life; respects self, others persons in authority and the environment; recognises ethical and professional behaviour.

LEVEL 3: SUPERVISOR

Knowledge and Understanding: Understands theoretical knowledge and information; related to complex procedures in a specific field of work or study; access and evaluates information independently.

Application and Practice: Applies knowledge in a range of complex activities demonstrating comprehension of relevant theories, concepts and principles; analyses information and makes reasoned judgements; selects from a considerable choice of procedures and employs a range of responses to well defined but often unfamiliar and unpredictable problems; carries out complex tasks systematically in a variety of familiar, unfamiliar and unpredictable contexts using a range of technical or learning skills.

Autonomy and Responsibility: Acts in familiar and unfamiliar contexts with considerable responsibility and autonomy**,** Engages in self-directed activity with guidance and limited evaluation, Takes responsibility for output; Assumes responsibility for quality and quantity of the output of others in a defined context, Negotiates positions and builds consensus while maintaining personal integrity in a defined context.

Life Skills: Communicates clearly, concisely and correctly in the written, spoken and visual form that fulfils the purpose and meets the needs of the audience. Responds appropriately to written, spoken, or visual messages in a manner that ensures effective communication. Anticipates consequences as related to choices and problems. Makes morally appropriate choices and can justify and defend choices. Exercises a degree of discretion and judgement about possible actions.

LEVEL 4: MIDDLE MANAGER

Knowledge and Understanding: Understands and analyses broad theoretical, practical and technical knowledge related to a field of work. Demonstrates an appreciation of the body of knowledge that constitutes a discipline or sector. Possess an awareness of the dynamic nature of knowledge and understanding. Analyses the reliability and validity of different sources of information.

Application and Practice: Applies knowledge, skills and understanding in a range of professional skills, techniques, practices and/or materials associated with the subject/discipline/sector, some of which are advance and/or complex. Carries out lines of enquiry, development or investigation into professional level problems and issues. Transfers and applies theoretical concepts and/or technical or creative skills to a range of contexts. Adapts routine practices within accepted standards. Follows instructions and undertakes defined theoretical, complex and technical tasks.

Autonomy and Responsibility: Exercises substantial personal autonomy in a range of varied and specific contexts involving creative and non-routine activities. Exercises autonomy and initiative in some activities at a professional level in practice or in a subject or discipline. Exercises managerial responsibility for the work of others within a defined structure. Manages resources within defined areas of work. Assumes design, management and administrative responsibilities and contributions when carrying out and evaluating tasks. Works under guidance with others to acquire an understanding of current professional practice. Manages, under guidance, ethical and professional issues in accordance with current professional and or ethical codes or practices.

Life Skills: Communicates clearly, concisely and correctly within the requirements of the environment and context. Responds to written, spoken or visual messages in a manner that ensures effective communication. Demonstrates ethics in professional practice and decision - making. Empathizes and makes informed decisions. Makes independent choices and solves routine problems independently. Uses communication technology in a socially appropriate manner. Demonstrates tolerance and temperance when interacting with others. Practices and promotes healthy lifestyle choice.

LEVEL 5: MANAGER

Knowledge and Understanding: Comprehensive, specialized, factual and theoretical knowledge**; a**nalyses, reformats and evaluates a wide range of information. Generates ideas through the analysis of information and concepts at an abstract level. Formulates appropriate responses to resolve well- defined and abstract problems. Understands concepts, principles, theories, and researches solutions to abstract problems.

Application and Practice: Utilises diagnostic and creative skills in a range of technical, professional or management functions that include a degree of unpredictability and/or specialisation; Commands wide-ranging specialised technical, creative and/or conceptual skills Demonstrates operational capacity and management skills with creativity; Applies a range of standard and specialised research and/or equivalent instruments and techniques of enquiry; Plans and executes a significant project of research, investigation or development and demonstrates originality and/or creativity in application

Autonomy and Responsibility: Exercises substantial autonomy and initiative in professional andequivalent activities. Takes responsibility for own work and/or significant responsibility for the work of others and for arange of resources. Works in a peer relationship with specialist practitioners; Demonstrates leadership and/or initiative and makes an identifiable contribution to change and development and/or new thinking.Functions in ways, which draws on critical reflection of own, and others' roles and responsibilities; Manages complex ethical and professional issues and make informed judgments on issues not addressed by current professional and/or ethical codes or practices; Takes significant or supervisory responsibility and accepts accountability for the use of diagnostic and creative skills in a range of functions in a wide variety of contexts

Life Skills: Communicates accurately and reliably, orally and in writing, to non-specialist audiences using structured and coherent arguments; Uses multiple thinking strategies, such as critical thinking, divergent thinking, problem solving, and decision making, to determine a course of action; Acts ethically and professionally in decision-making. Takes action, based on confidence in mastery. Makes a well-reasoned case supported by evidence and knowledge to explain conclusions and to solve problems. Guides and supports others in making decisions; Analyses the outcomes ofdecisions made to inform future actions; Makes decisions that reflect sensitivity to issues of diversity; Anticipates problems and initiate preventative actions; Uses communication technology in a socially appropriate manner; Negotiates positions and builds consensus while maintaining personal integrity; Makes and defends morally appropriate choices.

LEVEL 6: SPECIALIST

Knowledge and Understanding*:* Advance knowledge, theory, concepts and methods pertaining to body of learning or sector; some at the current boundaries of the field(s) (cutting edge).

Application and Practice: Demonstrates mastery of a complex and specialised area of skills and tools; uses and modifies advanced skills and tools to conduct closely guided research, professional or advanced technical activity. Exercises appropriate judgement in a number of complex planning, design, technical and/or management functions related to products, services, operations or processes, including resourcing. Demonstrates innovative theoretical and practical responses to work or study contexts.

Autonomy and Responsibility: Uses advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for all related decision making. Transfers and applies diagnostic and creative skills in a range of contexts. Acts effectively under guidance in a peer relationship with qualified practitioners; leads multiple, complex and heterogeneous groups. Functions in a wide and often unpredictable variety of professional level contexts. Learns to manage learning tasks independently, professionally and ethically. Expresses a comprehensive, internalised, personal world view manifesting solidarity with others.

Life Skills: Communicates information, arguments and analysis accurately and reliably, orally and in writing, to specialist and non-specialist audiences. Uses emotional awareness to inform decisions in multicultural situations. Assigns responsibilities and tasks based on decisions. Engages in stress reducing activity.

LEVEL 7: SPECIALIST/MULTI-DISCIPLINED PROFESSIONAL

Knowledge and Understanding: Involves a systematic understanding of highly specialised knowledge in a field of learning which informs decisions. awareness of crucial issues and the ability to deliver new insights based on the forefront of an area of learning possesses in-depth specialised or multi-disciplinary theoretical and practical knowledge, which is the foundation for original research that deals with social and ethical issues.

Application and Practices: The mastery of knowledge and skills, adjustment to changes in the business environment and motivates people to perform at a high standard. The selection from complex and high level skills across an area of learning, which may contribute to social and ethical issues.

Autonomy and Responsibility: Includes managing and transforming work or study context that are complex, unpredictable and require new strategic direction. Takes responsibility and supervises the work of individuals, teams and groups; Self-evaluates and takes responsibility for continuing academic/professional development. Scrutinises and reflects on social norms and relationships and acts to change them; Makes decisions that will impact organisations and others and uses knowledge of relevant laws and conventions, experience and related empirical data to arrive at conclusions.

Life Skills: Communicates issues and conclusions clearly to specialist and non-specialist audiences. Uses communication technology in a socially appropriate manner and optimises technology to collaborate with others; Develops creative solutions and original responses to solve problems and issues and accepts responsibility for decisions made; Deals with very complex and or new issues and makes informed judgments in the absence of complete or consistent data; Creates environment conducive to free interaction and expression; Promotes and builds consensus while maintaining personal integrity; Uses emotional awareness to inform decisions in multicultural situations; Resolves conflicts positively and confidently.

LEVEL 8: SPECIALIST

Knowledge and Understanding: Involves understanding of highly specialised body of experience in work or study, which governs the area of learning. To extend or redefines what currently exists in knowledge and practice. Combines practice, theory and scholarship to change what exists socially, ethically and in the global dimension.

Application and Practice: Involves demonstrating mastery in a significant range of the principal skills, techniques, tools, practices and materials. Communicates effectively complex and ambiguous ideas and conclusion clearly; treats to issues in technology, social and cultural areas. An expertise in critical evaluations and analysis with incomplete or limited information to solve problems in new or unfamiliar environments and to produce original research.

Autonomy and Responsibility:- Self –directed and shows authority in specialised field of work and analyses several factors before making decisions; supervises the work of others and assigns tasks; involves making informed judgement; rewards high performance and is a motivator.

Life Skills: - Uses complex communication skills to result in productivity of the organisation. uses technology and social media to interface with different audiences; Creates atmosphere, which facilitates free interaction and builds consensus.