



# COMPETENCY STANDARD

## CONCRETER LEVEL-I

### CONSTRUCTION SECTOR



In collaboration with



**NGO FORUM  
FOR PUBLIC HEALTH**



In partnership with

**Canada**

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## Foreword

UN High Commissioner for Refugees (UNHCR), in collaboration with International Organization for Migration (IOM), BRAC, Center for Natural Resource Studies (CNRS), and NGO Forum for Public Health, is implementing a skills development project as part of a joint Initiative by International Labour Organization (ILO), UNHCR and BRAC with financial support from Global Affairs Canada (GAC) in the refugee camps of Cox's Bazar and on Bhasan Char.

The project has a target to reach a total of 8,000 refugee youth (18-24) participants for accredited vocational skills training which will be selected across the camps considering the demand of the refugee youths and labour market needs of Rakhine state of Myanmar so that the acquired skills can be utilised after their repatriation. To assess the skills needs of the refugee youths, UNHCR, in collaboration with UCEP Bangladesh, a national pioneer organisation in the vocational skills sector in Bangladesh, commissioned a Skills Needs Assessment in all refugee camps in Cox's Bazar and on Bhasan Char. In alignment with the Skills Needs Assessment findings and commitment, the project developed Competency Standards by adopting Myanmar National Qualification Framework (MNQF) or ASEAN Qualification Reference Framework (AQRf).

Following the requirement of the Myanmar National Qualification Framework (MNQF) or ASEAN Qualification Framework (AQRf), analysing the context of the camps, compatible aptitude and utilisation opportunities for the refugee youth and their educational qualifications, the pool of TVET experts of UCEP Bangladesh has developed course outline of the following ten occupations. Consequently, those ten course outlines have been translated into Competency Standards.

1. Sewing Machine Operation
2. Community Health Worker
3. Concreter
4. Small Engine Mechanic
5. Caregiving
6. Solar (PV) System Installation and Maintenance
7. Electrician (Building)
8. Plumbing
9. Agricultural Crops Production
10. Bakery and Pastry Staff

The following competency standards for **Concreter Level-I** is adapted from the “National Occupational Competency Standard Concreter Level- 1” developed by the National Skills Standards Authority (NSSA) Myanmar. Competency standards are a set of benchmarks that define the skills, knowledge and attributes people need to perform a work role.

## Qualification Framework Description (Certification System)

To attain the Concreter Level- I, the candidate must demonstrate competence through assessment covering all the units listed in Section 1. Successful candidates shall be awarded a Certificate of Participation issued jointly by UNHCR and ILO. The qualification of Concreter Level- I may be attained through the accumulation of Certificates of Competency (COCs) in the following areas:

1. Perform Basic Measurement
2. Handle Concreting Materials Tools and Equipment
3. Use Of Concreting Tools and Equipment
4. Mix Concrete
5. Place Concrete
6. Consolidate Concrete
7. Finish Concrete
8. Cure Concrete

Successful candidates shall be awarded a Certificate of Participation. Accumulating and submitting all COCs acquired for the relevant units of competency comprising a qualification, an individual shall be issued a Certificate of Participation jointly by UNHCR and ILO to demonstrate the accumulated competencies. The Certificate of Participation may help the person attain the Recognition of Prior Learning (RPL) test in the country of origin or any other third country. Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.

## General Guidelines for the Assessment

In general, for the competency standard

<b>Method of Assessment:</b>	<ol style="list-style-type: none"> <li>1. Interviews/questioning</li> <li>2. Observation</li> <li>3. Demonstration</li> <li>4. Oral/written examination</li> </ol>
<b>Context of Assessment:</b>	<ol style="list-style-type: none"> <li>1. Training is delivered from camp-based non-registered training centre</li> <li>2. Training materials and the curriculum modules are adopted from MNQF or AQRF</li> <li>3. Training programs are endorsed by the <i>Government of Bangladesh – United Nations Framework on Skills Development for Rohingya Refugee/FDMNs and Host Communities</i></li> </ol>
<b>Information about development and characteristics of the Standard</b>	<p>Course Title: Concreter Level-I                      Level: I                      Nominal Training Duration: 360 Hours</p> <p>This course is designed to enhance the knowledge, desirable skills and attitudes of Concreter Level I in accordance with industry standards. It covers Basic, Common and Core Competencies.</p>

## Course Structure

### Concreter Level-I

Code	Unit of Competencies	Total Guided Hours		
		Th.	Pr.	Total
<b>Basic Competencies (2 UoCs Required)</b>				
ISEC- CON-CONC-01-B	Receive and Respond to Workplace Communication	06	14	20
ISEC- CON-CONC-02-B	Follow basic housekeeping procedures	08	22	30
<b>Total in Basic Competencies</b>		<b>14</b>	<b>36</b>	<b>50</b>
<b>Industry Competencies (2 UoCs Required)</b>				
ISEC-CON-CONC-01-I	Follow occupational health, safety (OHS) policies and procedures	06	24	30
ISEC-CON-CONC-02-I	Work in the Construction Sector	06	24	30
<b>Total in Industry Competencies</b>		<b>12</b>	<b>48</b>	<b>60</b>
<b>Technical Competencies (8 UoCs Required)</b>				
ISEC-CON-CONC-01-T	Perform basic measurement	8	25	33
ISEC-CON-CONC-02-T	Handle concreting materials tools and equipment	6	22	28
ISEC-CON-CONC-03-T	Use of concreting tools and equipment	6	26	32
ISEC-CON-CONC-04-T	Mix concrete	6	25	31
ISEC-CON-CONC-05-T	Place concrete	5	25	30
ISEC-CON-CONC-06-T	Consolidate concrete	5	27	32
ISEC-CON-CONC-07-T	Finish concrete	5	27	32
ISEC-CON-CONC-08-T	Cure concrete	5	27	32
<b>Total in Technical Competencies</b>		<b>46</b>	<b>204</b>	<b>250</b>
<b>Total Nominal Hours</b>		<b>72</b>	<b>288</b>	<b>360</b>

## BASIC COMPETENCIES

- UNIT OF COMPETENCY** : **Receive and respond to workplace communication**
- UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes required to receive, respond and act on verbal and written communication.
- NOMINAL DURATION** : **20 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Follow routine spoken messages	1.1 Acquire instructions from the supervisor before installing the building electrical system and follow them. 1.2 Record information as instructed by the immediate supervisor. 1.3 Ask for clarification when any instruction/ information is not clear.
2. Perform workplace duties following written notices	2.1 <b><i>Interpret and follow the written notices and instructions correctly</i></b> in accordance with <b><i>organizational guidelines</i></b> 2.2 Follow the routine written instructions in the right sequence. 2.3 Notify relevant person or party upon completion of work in accordance with organisational procedures

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Written notices and instructions	1.1 Handwritten and printed materials 1.2 Internal memos 1.3 External communications 1.4 Briefing notes 1.5 General correspondence
2. Organizational Guidelines	2.1 Information documentation procedures 2.2 Organization manuals 2.3 Service manuals

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
Basic and general knowledge of: - <ul style="list-style-type: none"> <li>• Different types of communication with regard to job performance</li> <li>• Interpreting verbal and written instructions, drawings and sketches</li> <li>• Construction terminology at the basic level</li> <li>• Organizational guidelines in regard to processing internal/ external information</li> </ul>	1. Conciseness in receiving and clarifying messages/information/communication 2. Accuracy in recording messages/information
<b>Required major tools and equipment for the UoC:</b> <ol style="list-style-type: none"> <li>1. Pens</li> <li>2. Note pads</li> </ol>	



- UNIT OF COMPETENCY** : **Follow basic housekeeping procedures**  
**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes required to apply the basic housekeeping procedures.  
**NOMINAL DURATION** : **30 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Sort and remove unnecessary items	1.1 Reusable, recyclable materials are sorted in accordance with company/office procedures 1.2 <b>Unnecessary items</b> are removed and disposed of in accordance with company or office procedures
2. Arrange items systematically	2.1 Items are arranged in accordance with company/office housekeeping procedures 2.2 Work area is arranged according to job requirements 2.3 Activities are prioritized based on instructions 2.4 Items are provided with clear and visible <b>identification marks</b> based on procedure 2.5 Safety equipment and evacuation passages are kept clear and accessible based on instructions
3. Maintain work area, tools, and equipment	3.1 Cleanliness and orderliness of work area is maintained in accordance with company/office procedures 3.2 Tools and equipment are cleaned in accordance with manufacturer's instructions/manual 3.3 <b>Minor repairs</b> are performed on tools and equipment in accordance with manufacturer's instruction/manual 3.4 Defective tools and equipment are reported to immediate supervisor
4. Follow standardized work process and procedures	4.1 Materials for common use are maintained in designated area based on procedures 4.2 Work is performed according to standard work procedures 4.3 Abnormal incidents are reported to immediate supervisor
5. Follow occupational health, safety and environmental requirements	5.1 Work is performed as per instruction 5.2 Company and office <b>decorum</b> are followed and complied with 5.3 Work is performed in accordance with occupational health and safety (OHS) requirements

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Unnecessary items	1.1. Non-recyclable materials 1.2. Unserviceable tools and equipment 1.3. Pictures, posters and other materials not related to work activity 1.4. Waste materials
2. Identification marks	2.1 Labels 2.2 Tags 2.3 Colour coding
3. Decorum	3.1 Company/ office rules and regulations 3.2 Company/ office uniform 3.3 Behaviour
4. Minor repair	4.1 Replacement of parts 4.2 Application of lubricants 4.3 Sharpening of tools 4.4 Tightening of nuts, bolts and screws

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<ul style="list-style-type: none"> <li>• Principles of 5S</li> <li>• Work process and procedures</li> <li>• Safety signs and symbols</li> <li>• Environmental requirements relative to work safety</li> <li>• Accident/Hazard reporting procedures</li> </ul>	<ol style="list-style-type: none"> <li>1. Basic communication skills</li> <li>2. Interpersonal skills</li> <li>3. Reading skills required to interpret instructions</li> <li>4. Reporting/recording accidents and potential hazards</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Pens</li> <li>2. Note pads</li> <li>3. Marker</li> <li>4. Colour pens</li> </ol>	

## INDUSTRY COMPETENCIES

- UNIT OF COMPETENCY** : **Follow occupational health, safety (OHS) policies and procedures**
- UNIT DESCRIPTOR** : This unit specifies the competency required to work safely on a General Construction site adhering to Occupational health, safety (OHS) policies and procedures. This unit includes emergency procedures and basic risk assessment.
- NOMINAL DURATION** : **30 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Follow safe work practices	1.1 Tasks are performed in a safe manner and in accordance with instructions. 1.2 <b>Tools, equipment, and materials</b> are used in accordance with enterprise procedures. 1.3 <b>Personal Protective Equipment</b> is used according to enterprise procedures. 1.4 Plant and equipment guards are used where applicable, in accordance with instructions. 1.5 <b>Safety signs and symbols</b> are identified and followed.
2. Assess risks Hazards in the work area are identified, assessed and reported to designated personnel	2.1 <b>Risks are identified</b> and assessed in the work area and reported them to designated personnel. 2.2 Safe workplace procedures and instructions are followed to control risks. 2.3 OHS, hazard, accident, or incident reports are contributed according to workplace procedures.
3. Follow emergency procedures	3.1 Appropriate personnel are identified in the event of an emergency. 3.2 Safe workplace procedures are followed for dealing with accidents, fires and emergencies within scope of responsibilities. 3.3 Emergency and evacuation procedures are practiced and carried out when required.

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Occupational health, safety (OHS)	1.1 OHS requirements are to be in accordance with organizational safety policies and procedures, and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of firefighting equipment, organisational first aid, hazard control and hazardous materials and substances 1.2 Personal protective equipment is to include that prescribed under workplace policies and practices 1.3 Emergency procedures related to this unit are to include but may not be limited to extinguishing fires, organisational first aid requirements and evacuation
2. Equipment	2.1 Tools and equipment are to include but not be limited to a first aid kit, firefighting equipment and personal protective equipment and may include ladders and work platforms
3. Materials	3.1 Materials are to include but not be limited to first aid materials
4. Information	4.1 Information sources may include but not be limited to verbal or written and graphical instructions, signage

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<ul style="list-style-type: none"> <li>• Site and equipment safety requirements</li> <li>• Personal protective equipment and clothing</li> <li>• Signage</li> <li>• Basic firefighting equipment</li> <li>• Fires</li> <li>• Basic first aid procedures</li> <li>• Accidents and injuries</li> <li>• Induction procedures</li> <li>• Emergency response and evacuation procedures</li> <li>• Handling methods</li> <li>• Project quality requirements</li> <li>• Communication devices</li> <li>• General construction terminology</li> <li>• Safe work method statements</li> </ul>	<ol style="list-style-type: none"> <li>1. Ability to recognize effective tools, materials, and outfit</li> <li>2. Ready skills required to read labels, manuals, and other basic safety information</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Tools, equipment, and outfits appropriate in applying safety measures</li> </ol>	

- UNIT OF COMPETENCY** : **Work in the Construction Sector**
- UNIT DESCRIPTOR** : This unit covers the skills, knowledge, and attitude in working in the construction sector. It includes the following steps: describe the organizational structure within the construction sector, identify processes and procedures, identify tools, equipment, and materials, identify workplace practices, organize own workload, and practice OHS.
- NOMINAL DURATION** : **30 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Describe the organizational structure within the sector	1.1 Scope, nature and <b>major fields</b> of the construction sector are determined 1.2 The profile of the construction sector in relation to Bangladesh <b>employment conditions</b> is determined 1.3 Trends and technologies relevant to the sector are explained. 1.4 Relevant policies and guidelines are identified and interpreted. 1.5 <b>Instructions</b> as to procedures in achieving quality are obtained, understood and clarified.
2. Identify processes and procedures	2.1 Construction processes are identified, described and explained. 2.2 Work activities are correctly identified. 2.3 Adjustments are interpreted.
3. Identify tools, equipment and materials	3.1 Appropriate <b>manuals</b> are accessed to ensure up-to-date specifications of tools, materials, and equipment. 3.2 Construction <b>tools, materials and equipment</b> are identified. 3.3 Substitutes are identified in case of non-availability.
4. Identify workplace requirements	4.1 <b>Workplace requirements</b> are identified and clarified. 4.2 Roles and responsibilities of all personnel are described. 4.3 Workplace's practices are identified. 4.4 <b>Problem-solving strategies</b> are used to address bottlenecks, inconsistencies, and other concerns.
5. Organize own workload	5.1 Own work activities are planned, and progress of work is communicated to relevant staff. 5.2 Work activities are completed. 5.3 Difficulties and bottlenecks are identified, and solutions are put forwarded. 5.4 Own work is monitored against workplace standards and areas for improvement identified and acted upon.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
6. Follow occupational health, safety (OHS) and environmental requirements	6.1 Relevant <b>OHS</b> practices are identified. 6.2 Relevant <b>OHS</b> practices are interpreted and implemented.

## RANGE OF VARIABLES

Variable	Range (May include but not limited to)
1. Major Fields	1.1. Construction Site Support (Dogging, Rigging, etc.) 1.2. Carpentry and Form Works 1.3. Masonry, Brick/Block Laying and Concreting 1.4. Surface Finishing, Tiling and Painting 1.5. Roofing 1.6. Plumbing 1.7. Residential Electrical Wiring and Cabling
2. Employment conditions	2.1. Code of Practice 2.2. Wage System 2.3. Labour Practices 2.4. Gender Issues 2.5. Procedures for Handling Disputes 2.6. Innovations in the Sector
3. Instructions	3.1. Specifications and requirements 3.2. Standard operating procedures 3.3. Manuals of Instruction 3.4. Operations Manual
4. Manuals	4.1. Manual of Instructions 4.2. Manual of Specifications 4.3. Repair Manual 4.4. Quality Manual 4.5. Maintenance Procedure and Troubleshooting
5. Workplace requirements	5.1. Goals and objectives 5.2. Strategic and Operational Plans 5.3. Systems and Processes 5.4. Monitoring and Evaluation 5.5. Reports and Documentation
6. Tools, equipment, and materials	6.1. Refers to all tools, equipment, and materials appropriate for any of the construction fields
7. Problem-solving strategies	7.1. Asking questions 7.2. Feedback and Feed forward system 7.3. Reference to Standard Operating Procedures 7.4. Accessing Information 7.5. Reviews 7.6. Brainstorming
8. OHS	8.1. Reporting hazards, risks, and emergencies 8.2. Arrangement of workplaces 8.3. Standard Operating Procedure 8.4. Workplace environment and safety 8.5. Safe storage of tools and equipment 8.6. Use of PPE

Underpinning Knowledge (To be used as training content in the information sheet of CBLM)	Underpinning Skills (to be used as job in the job sheet of CBLM)
<ul style="list-style-type: none"> <li>• Scope and Major Divisions of the Construction Sector</li> <li>• Relevant Policies and Guidelines in the Construction Sector</li> <li>• Manuals used in the Construction Sector</li> </ul>	<ol style="list-style-type: none"> <li>1. Describing the organization structure</li> <li>2. Identifying construction processes and procedures</li> <li>3. Identifying tools, equipment, and materials</li> <li>4. Identifying workplace practices</li> </ol>

<ul style="list-style-type: none"><li>• Relevant Terminologies and Acronyms</li><li>• Types and Uses of Construction Tools and Materials</li><li>• Workplace Practices</li><li>• Occupational Health and Safety Practices</li><li>• Recording and Reporting practices</li></ul>	<ul style="list-style-type: none"><li>5. Organizing own workload</li><li>6. Practicing OHS</li></ul>
<p><b>Required major tools and equipment for the UoC:</b></p> <ul style="list-style-type: none"><li>1. Pens</li><li>2. Writing materials</li><li>3. Computer</li><li>4. Multi-media projector</li></ul>	



## TECHNICAL COMPETENCIES

<b>UNIT OF COMPETENCY</b>	: <b>Perform Basic Measurements</b>
<b>UNIT DESCRIPTOR</b>	: This unit refers to the measurements related to concreting in the construction industry
<b>NOMINAL DURATION</b>	: <b>33 Hours</b>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare work	1.1 Site plan and <b>work specifications</b> are acquired 1.2 Measurement devices are inspected
2. Obtain the measurements from drawings/ sketches/ verbal instructions	2.1 System of measurement is determined 2.2 Measuring tools are selected 2.3 Length, breadth, height and area of the wall are measured. 2.4 Actual measurement is conducted and recorded
3. Obtain the measurements of materials	3.1 Available measuring methods are chosen and used. 3.2 <b>Devices for measurement</b> in foot or mm are used 3.3 Select the <b>materials</b> to be measured 3.4 The quantity of materials is measured 3.5 The measured materials are collected

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Work specifications	1.1. Detailed description of work in inch, foot and mm, cm 1.2. FPS system, SI system
2. Devices for measurement	2.1. Steel tape 2.2. Folding ruler 2.3. Plumb bob 2.4. Tri-square
3. Materials	3.1. Cement 3.2. Clay bricks 3.3. Sand 3.4. Lime 3.5. Masonry blocks course aggregate 3.6. Reinforcing materials 3.7. Waterproofing materials 3.8. Water

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<b>Basic and general knowledge of:</b> <ul style="list-style-type: none"> <li>• Basic calculation of area and quantity of materials</li> <li>• Work site direction</li> <li>• Site plan</li> </ul>	<ol style="list-style-type: none"> <li>1. Interpreting plans and details</li> <li>2. Preparing materials</li> <li>3. Measurement and mathematics skill</li> <li>4. Using of measuring tools</li> </ol>
<b>Required major tools and equipment for the UoC:</b> <ol style="list-style-type: none"> <li>1. Workplace location</li> <li>2. Tools and equipment are available</li> <li>3. Materials relevant to proposed activity</li> <li>4. Drawing and specifications relevant to the task</li> </ol>	

- UNIT OF COMPETENCY** : **Handle Concreting Materials**  
**UNIT DESCRIPTOR** : This unit specifies the competency required to safely handle, store concreting materials and components in preparation for concreting work. The unit includes the identification and safe handling of hazardous materials and waste in accordance with instructions.  
**NOMINAL DURATION** : **28 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare	1.1 Work instructions and operational details are obtained, confirmed and applied 1.2 Safety requirements are followed in accordance with safety plans and policies 1.3 Signage/barricade requirements are identified and implemented 1.4 <b>Tools and equipment</b> selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement 1.5 Materials appropriate to the work application are obtained, prepared, safely handled and located ready for use 1.6 Environmental protection requirements are followed and applied
2. Handle and store concrete materials and components	2.1 Concrete materials and components, on delivery to site, are collected in accordance with <b>instruction</b> 2.2 Concrete materials are moved to specified location applying safe manual handling techniques 2.3 Concrete materials and components are stacked or stockpiled for ease of identification and retrieval for task sequence and job location in accordance with work instructions 2.4 Concrete materials and components are protected against physical and water damage and stored clear of access ways, for ease of identification, retrieval and distribution 2.5 Components are handled and positioned ready for installation accordance with work instructions
3. Handle and remove concrete materials and components on completion	3.1 Materials are handled safely according to instructions 3.2 Hazardous material is handled separately according to instruction. 3.3 Dust suppression procedures are used to minimise health risk to work personnel and others 3.4 Protections for materials are provided in accordance with specific material needs.

	3.5 Materials stored safely and effectively according to instruction.
4. Clean up	4.1 Work area is cleared, and materials disposed of, reused according to rules and regulations 4.2 Hazardous material is identified for separate handling 4.3 Non-toxic materials are removed using correct procedures 4.4 Dust suppression procedures are used to minimize health risk to work personnel and others 4.5 Tools and equipment are cleaned, checked, maintained and stored in accordance with standard work practices

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Safety (OHS)	1.1. OHS requirements in accordance with codes of practice, organizational safety policies and procedures and project safety plan. 1.2. Protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of firefighting equipment, organisational first aid, hazard control and hazardous materials and substances 1.3. Personal protective equipment prescribed under codes of practice and workplace policies and practices 1.4. Safe operating procedures related to treatments associated with power cables (including overhead service trays, cables and conduits), lighting, earth leakage boxes, trip hazards, working with dangerous materials, working in confined spaces, surrounding structures, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public 1.5. Emergency procedures such as extinguishing equipment fires, organisational first aid requirements and evacuation
2. Tools and equipment	2.1. Shovels 2.2. Rakes 2.3. Tarpaulins/covers 2.4. Wheelbarrows 2.5. Brooms
3. Instructions	3.1. Instruction may include but not be limited to verbal or written and graphical instructions and signage 3.2. Safe work procedures related to handling concreting materials 3.3. Manufacturers' specifications and instructions where specified 3.4. Organisation work specifications and requirements 3.5. Instructions issued by authorised organisational personnel

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<b>Basic and general knowledge of:</b> <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements</li> <li>• Quality requirements</li> <li>• General Construction terminology</li> <li>• Tools and equipment types, characteristics, uses and limitations</li> <li>• Concrete materials handling techniques</li> <li>• Concreting materials</li> </ul>	1. Interpreting plan and details 2. Preparing materials 3. Handling, storing concreting materials 4. Cleaning workplace

<ul style="list-style-type: none"><li>• Materials handling, storage and environmentally friendly waste disposal</li><li>• Hazardous materials</li><li>• Safe Work procedure</li></ul>	
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"><li>1. Workplace location</li><li>2. Tools and equipment appropriate to construction processes</li><li>3. Materials relevant to the proposed activity</li><li>4. Drawings and specifications relevant to the task</li></ol>	

- UNIT OF COMPETENCY** : **Use concreting tools and equipment**  
**UNIT DESCRIPTOR** : This unit specifies the competency required to safely select and use concreting tools and equipment for the completion of all general concreting tasks. The unit includes hand tools, power tools, small plant and equipment.  
**NOMINAL DURATION** : **32 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare	1.1 Work instructions and operational details are obtained, confirmed and applied 1.2 Safety requirements are followed in accordance with instructions 1.3 Signage/barricade requirements are identified and followed 1.4 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement 1.5 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use 1.6 Environmental protection requirements are identified for the project in accordance with <b>instructions</b>
2. Identify and select <b>plant, hand and power tools</b>	2.1 Plant, hand and power tools, their functions, operations and limitations are identified and selected 2.2 <b>OHS</b> requirements for using hand and power tools are recognized and adhered to 2.3 Tools are selected consistent with job requirements 2.4 Tools, including leads and hoses, are checked for tags, serviceability and safety and any faults reported 2.5 Power tool guards, retaining bolts, couplings, gauges and controls are checked and maintained in accordance with manufacturers' recommendations 2.6 Equipment to hold or support material during operation is selected
3. Use Tools	3.1 Hand tools used are appropriate to the task, the materials and are in accordance with OHS requirements 3.2 Power tools are safely and effectively used in accordance with manufacturer's recommendations and instructions 3.3 Tools are sharpened and maintained

4. Clean up	4.1 Work area is cleared, and materials disposed of, reused or recycled in accordance with instructions 4.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer's recommendations and instructions
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**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Safety (OHS)	1.1. OHS requirements are to be in accordance with codes of practice, organizational safety policies and procedures and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment.
2. Quality Requirements	2.1. Quality requirements are to include but not be limited to relevant regulations, internal company quality policy and standards, workplace operations and procedures and manufacturers' specifications where specified.
3. Plant, hand and power tools and equipment	3.1. Power concrete mixers, crow bars, pinch bars, hammers, nail bags, measuring tapes, sledgehammers, picks, long handled shovels, rakes, pliers, steel fixing reels, cutting knives, string lines, levelling equipment, bolt cutters, grinders, vibrators, screeds, edging tools, trowels, jointers, floats and kneel boards.
4. Information	4.1. Information sources may include but not be limited to verbal or written and graphical instructions.

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<p><b>Basic or general knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements</li> <li>• Quality requirements</li> <li>• General construction terminology</li> <li>• Tools and equipment types, characteristics, uses and limitations</li> <li>• Knowledge of concreting tool use techniques</li> <li>• Concreting materials</li> <li>• Materials handling, storage and environmentally friendly waste disposal</li> <li>• Knowledge of safe work method</li> </ul>	<ol style="list-style-type: none"> <li>1. Collection of appropriate Tools</li> <li>2. Using Hand Tools Correctly</li> <li>3. Using Power Tools Correctly</li> <li>4. Performing Preventive Maintenance</li> <li>5. Practicing OHS</li> <li>6. Storing tools and equipment</li> <li>7. Cleaning Up</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Adequate workplaces</li> <li>2. Construction materials</li> <li>3. Tools appropriate to the construction process</li> <li>4. Information and documentation</li> <li>5. Product specifications</li> <li>6. Manual, Codes, Standards, and reference materials</li> </ol>	

- UNIT OF COMPETENCY** : **Mix Concrete**
- UNIT DESCRIPTOR** : This unit specifies the competency required to mix concrete in preparation for concreting work. The unit includes the identification and safe handling of hazardous materials and waste in accordance with instructions.
- NOMINAL DURATION** : **31 Hours**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Select materials to be hauled	1.1 Appropriate <b><i>personal protective equipment (PPE)</i></b> is selected and used according to job requirements. 1.2 Work instruction is secured from immediate superior 1.3 Quantity of materials to be hauled is determined according to the instruction of immediate superior 1.4 Correct quantity and type of materials to be used are secured
2. Haul materials	2.1 Availability and serviceability of appropriate <b><i>hauling equipment</i></b> are checked as specified by the immediate superior 2.2 Materials are hauled based on work schedule as specified 2.3 Required materials are stockpiled based on instructions
3. Mix concrete	3.1 <b><i>Mixing tools and equipment</i></b> to be used are checked according to job requirements 3.2 Concrete mix and quantity is determined according to the instructions 3.3 Concrete or mortar is mixed according to the instructions 3.4 Mixed concrete or mortar is supplied to the appropriate personnel based on job requirements

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1. Personal protective equipment (PPE)	1.1. Helmet 1.2. Safety shoes 1.3. Proper uniform 1.4. Gloves 1.5. Dust mask 1.6. Safety glass
2. Materials	2.1. Cement 2.2. Sand 2.3. Water 2.4. Concrete / CW nails 2.5. Fly ash
3. Hauling equipment	3.1. Skid loader 3.2. Dumper 3.3. Material hoist 3.4. Pallet 3.5. Wheelbarrow 3.6. Buggy
4. Mixing tools and equipment	4.1. One bagger mixer 4.2. Shovel 4.3. Pails 4.4. Mixing box

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<p><b>Basic and general knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements</li> <li>• Ratios of Materials used in mixing various types of concrete</li> <li>• Quality requirements</li> <li>• General Construction terminology</li> <li>• Concreting materials</li> <li>• Materials handling, storage and environmentally friendly waste disposal</li> <li>• Hazardous materials</li> <li>• Safe Work procedure</li> </ul>	<ol style="list-style-type: none"> <li>1. Preparing materials</li> <li>2. Mixing concrete</li> <li>3. Using of hauling equipment</li> <li>4. Using of mixing tools and equipment</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Workplace location</li> <li>2. Tools and equipment are available</li> <li>3. Materials relevant to proposed activity</li> </ol>	

- UNIT OF COMPETENCY** : **Place Concrete**  
**UNIT DESCRIPTOR** : This unit specifies the competency required to transport and place concrete into prepared formwork or foundations.  
**NOMINAL DURATION** : **30 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare	1.1 Work instructions and operational details are obtained, confirmed and applied 1.2 Safety requirements are followed in accordance with instructions 1.3 Signage/barricade requirements are identified and followed 1.4 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement 1.5 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use 1.6 Environmental protection requirements are identified for the project in accordance with <b>instructions</b>
2. Define and prepare work area	2.1 Location of concrete placement is determined as per instruction and check if location for placement is free of debris and waste 2.2 Safe working area is maintained around pour location using barriers and signage consistent with <b>OHS</b> regulations 2.3 Plant, tools and equipment is located to suit planned placement
3. Place concrete	3.1 Concrete is placed in horizontal layers into location to levels as indicated by markers, level pegs or lines 3.2 Height of vertical drop of concrete is minimised to avoid segregation of concrete materials 3.3 Poured concrete is consolidated during process using approved compaction or vibration method 3.4 Finished levels are checked against datum using appropriate levelling device
4. Screed/level concrete	4.1 Concrete is screeded to correct levels and/or grades using appropriate straight edged tool/formwork mounted screed
5. Clean up	5.1 Work area is cleared, and materials disposed of, reused or recycled in accordance with legislation/regulations/codes of practice and job specification 5.2 <b>Plant, tools and equipment</b> are cleaned, checked, maintained and stored in accordance with instructions

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range</b> (May include but not limited to)
1 Safety (OHS)	1.1. OHS requirements are to be in accordance with codes of practice, organizational safety policies and procedures and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment.
2 Quality Requirements	2.1. Quality requirements are to include but not be limited to relevant regulations, internal company quality policy and standards, workplace operations and procedures and manufacturers' specifications where specified.
3 Plant, hand and power tools and equipment	3.1. Crow bars, pinch bars, long handled shovels, rakes, steel fixing reels, string lines, levelling equipment, vibrators, screeds, edging tools, trowels, jointers, floats and kneel boards.
4 Instruction	4.1. Instructions may include but not be limited to verbal or written and graphical instructions.

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
<p><b>Basic or general knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements quality requirements</li> <li>• General Construction terminology</li> <li>• Plant, tools and equipment types, characteristics, uses and limitations</li> <li>• Concreting techniques</li> <li>• Concrete materials</li> <li>• Materials handling, storage and environmentally friendly waste disposal</li> <li>• Levelling techniques</li> <li>• Segregation</li> <li>• Compaction</li> <li>• Safe work method statement</li> </ul>	<ol style="list-style-type: none"> <li>1. Preparing materials</li> <li>2. Placing concrete</li> <li>3. Transporting concrete</li> <li>4. Using of hand and power tools</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Workplace location</li> <li>2. Tools and equipment are available</li> <li>3. Materials relevant to proposed activity</li> </ol>	

- UNIT OF COMPETENCY** : **Consolidate Concrete**
- UNIT DESCRIPTOR** : This unit specifies the competency required to perform consolidating concrete works to secure a dense structure, close bond with reinforce and smooth surfaces. The unit includes using hand tools, vibrators and finishes machines in accordance with instructors.
- NOMINAL DURATION** : **32 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare	1.1 Work instructions and operational details are obtained, confirmed and applied 1.2 <b>Safety</b> requirements are followed in accordance with instructions 1.3 Signage/barricade requirements are identified and followed 1.4 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement 1.5 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use 1.6 Environmental protection requirements are identified for the project in accordance with instructions
2. Consolidate Concrete	2.1 Concrete is tampered with hand tools, should be full depth of the layer being placed. 2.2 Consolidated by using vibrators are of three general types: internal, surface and form. Any of these types should be <b>applied systematically</b> at short intervals of distance. 2.3 Vibration should be continued only until the concrete is thoroughly consolidated. 2.4 A surface vibrator should consolidate the layer being placed to its full depth. 2.5 A form vibrator should be depended on only for the vibration of concrete in sections which are too thin, or which are inaccessible for interval vibrators.
3. Clean up	3.1 Work area is cleared, and materials disposed of, reused or recycled in accordance with legislation/regulations/codes of practice and job specification 3.2 <b>Plant, hand and power tools</b> and equipment are cleaned, checked, maintained and stored in accordance with instructions.

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1 Safety (OHS)	1.1. OHS requirements are to be in accordance with codes of practice, organizational safety policies and procedures and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment.
2 Applied Systematically	2.1. Vibrating continued beyond sufficient period is not effective and tends to cause coarse aggregate to settle to the bottom and water or paste to rise to the top.
3 Plant, hand and power tools and equipment	3.1. Bamboo 3.2. Timber 3.3. Steel Rod 3.4. Vibrator Rod 3.5. Vibrator Engine 3.6. Plate Vibrator

<b>Underpinning Knowledge</b> (To be used as training content in the information sheet of CBLM)	<b>Underpinning Skills</b> (to be used as job in the job sheet of CBLM)
Basic or general knowledge of: <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements quality requirements</li> <li>• General Construction terminology</li> <li>• Plant, tools and equipment types, characteristics, uses and limitations</li> <li>• Consolidating techniques</li> <li>• Concrete materials</li> <li>• Materials handling, storage and environmentally friendly waste disposal</li> <li>• Levelling techniques</li> <li>• Segregation</li> <li>• Compaction</li> <li>• Safe work method statement</li> </ul>	<ol style="list-style-type: none"> <li>1. Preparing materials</li> <li>2. Consolidating concrete</li> <li>3. Using of hand and power tools</li> </ol>
<b>Required major tools and equipment for the UoC:</b> <ol style="list-style-type: none"> <li>1. Workplace location</li> <li>2. Tools and equipment are available</li> <li>3. Materials relevant to proposed activity</li> </ol>	

- UNIT OF COMPETENCY** : **Finish Concrete**  
**UNIT DESCRIPTOR** : This unit specifies competencies required to perform finishing concrete works after screeding in accordance with instructions.  
**NOMINAL DURATION** : **32 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare	1.1 Work instructions and operational details are obtained, confirmed and applied 1.2 <b>Safety</b> requirements are followed in accordance with instructions 1.3 Signage/barricade requirements are identified and followed 1.4 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement 1.5 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use 1.6 Environmental protection requirements are identified for the project in accordance with <b>instructions</b>
2. Finish concrete	2.1 Float and trowel are applied after initial screeding to assist in maintaining a level surface and remove screeding inaccuracies 2.2 Mechanical trowelling is applied to consolidate and densify the setting of the concrete surface 2.3 Control joints are installed, edges finished, and concrete trowelled according to instructions 2.4 Final trowel/finish applied to concrete surface according to instructions
3. Clean up	3.1 Work area is cleared, and materials disposed of, reused, or recycled in accordance with instructions 3.2 <b>Plant, tools, and equipment</b> are cleaned, checked, maintained and stored in accordance with instructions



**RANGE OF VARIABLES**

Variable	Range (May include but not limited to)
1 Safety (OHS)	1.1. OHS requirements are to be in accordance with codes of practice, organizational safety policies and procedures and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment.
2 Quality Requirements	2.1. Quality requirements are to include but not be limited to relevant regulations, internal company quality policy and standards, workplace operations and procedures and manufacturers' specifications where specified.
3 Hand and power tools and equipment	3.1. Measuring tapes, picks, long handled shovels, rakes, levelling equipment, vibrators, screeds, edging tools, trowels, jointers, floats, brooms, water hose and kneel boards
4 Instruction	4.1. Information sources may include but not be limited to verbal or written and graphical instructions.

Underpinning Knowledge (To be used as training content in the information sheet of CBLM)	Underpinning Skills (to be used as job in the job sheet of CBLM)
<p><b>Basic or general knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements</li> <li>• Quality requirements</li> <li>• General Construction terminology</li> <li>• Plant, tools and equipment types, characteristics, uses and limitations</li> <li>• Concrete finishing techniques</li> <li>• Concrete materials</li> <li>• Materials handling, storage and environmentally friendly waste disposal</li> <li>• Levelling techniques</li> <li>• Curing times</li> <li>• Safe work method</li> </ul>	<ol style="list-style-type: none"> <li>1. Preparing materials</li> <li>2. Finishing concrete</li> <li>3. Screeding concrete</li> <li>4. Using of hand and power tools</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Workplace location</li> <li>2. Tools and equipment are available</li> <li>3. Materials relevant to proposed activity</li> </ol>	

- UNIT OF COMPETENCY** : **Cure Concrete**
- UNIT DESCRIPTOR** : This unit specifies the competency required to carry out the initial curing process to a nominated poured concrete section to control the moisture evaporation from finished concrete. The unit includes using curing agents and curing techniques in accordance with instructions.
- NOMINAL DURATION** : **32 Hours**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan and prepare	1.1 Work <b>instructions</b> , including plans, specifications, quality requirements and operational details are obtained, confirmed and applied 1.2 <b>Safety</b> requirements are followed in accordance with safety plans and policies 1.3 Signage/barricade requirements are identified and implemented 1.4 <b>Tools and equipment</b> selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement 1.5 Material quantity requirements are calculated in accordance with plans and/or specifications 1.6 <b>Materials</b> appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use 1.7 Environmental protection requirements are identified for the project in accordance with environmental plans and regulatory obligations and applied.
2. Cure concrete according to project specifications	2.1 Run off devices are installed and maintained 2.2 <b>Curing compound</b> method is applied and maintained on concrete surface to project specifications 2.3 Concrete is protected during curing process by isolating and/or barricading the area
3. Clean up	3.1 Work area is cleared, and materials disposed of, reused or recycled in accordance with legislation/regulations/codes of practice and job specification 3.2 Tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer's recommendations and standard work practices

**RANGE OF VARIABLES**

<b>Variable</b>	<b>Range (May include but not limited to)</b>
1 Safety (OHS)	1.1. OHS requirements are to be in accordance with codes of practice, organizational safety policies and procedures and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment.
2 Quality Requirements	2.1. Quality requirements are to include but not be limited to relevant regulations, internal company quality policy and standards, workplace operations and procedures and manufacturers' specifications where specified.
3 Tools and equipment	3.1. Brooms, water sprayer, tarpaulin, barricades
4 Curing compound	4.1. Concrete curing chemicals that aid in setting of concrete minimizing cracks
5 Information	5.1. Information sources may include but not be limited to verbal or written and graphical instructions.

<b>Underpinning Knowledge (To be used as training content in the information sheet of CBLM)</b>	<b>Underpinning Skills (to be used as job in the job sheet of CBLM)</b>
<p><b>Basic or general knowledge of:</b></p> <ul style="list-style-type: none"> <li>• Workplace and equipment safety requirements</li> <li>• Quality requirements</li> <li>• General Construction terminology</li> <li>• Plant, tools and equipment types, characteristics, uses and limitations</li> <li>• Concrete finishing techniques</li> <li>• Concrete materials</li> <li>• Materials handling, storage and environmentally friendly waste disposal</li> <li>• Levelling techniques</li> <li>• Curing times</li> <li>• Safe work method</li> </ul>	<ol style="list-style-type: none"> <li>1. Preparing materials</li> <li>2. Curing concrete</li> <li>3. Maintaining concrete moisture</li> <li>4. Using of tools and equipment</li> </ol>
<p><b>Required major tools and equipment for the UoC:</b></p> <ol style="list-style-type: none"> <li>1. Workplace location</li> <li>2. Tools and equipment are available</li> <li>3. Materials relevant to proposed activity</li> </ol>	