



REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

AGRICULTURAL ENGINEER CRAFTSPERSON

LEVEL 5

PROGRAMME ISCED CODE: 0716 454 A



**TVET CDACC
P.O. BOX 15745-00100 NAIROBI**

CONSTRUCT FARM STRUCTURES AND ROADS

UNIT CODE: 0716 451 10A

TVET CDACC CODE: ENG/OS/AGR/CR/03/5/MA

UNIT DESCRIPTION

This unit specifies the competencies required by an Agricultural Engineering Technologist Level 6 to construct farm structures and roads. It involves designing farm structures and roads, constructing farm structures and roads and maintaining farm structures and roads.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
1. Design farm structures and roads	1.1 Farm structures and roads <i>work drawings</i> are prepared as per building codes 1.2 Farm structures and roads design approvals are obtained as per work requirement 1.3 Farm structures and roads material costs are prepared as per approved designs and drawings 1.4 Farm structures and roads material schedule is prepared based on design and drawings
2. Construct farm structures and roads.	2.1 Personal protective equipment are worn based on OSHA 2.2 <i>Farm structures and roads construction tools and equipment</i> are assembled as per work requirements. 2.3 Farm structures and roads are constructed as per the approved working drawings
3. Maintain farm structures and roads	3.1 Personal protective equipment are worn as on OSHA 3.2 <i>Farm structures and roads maintenance tools and equipment</i> are assembled as per work requirements.

	3.3 Farm structures and roads routine maintenance is carried out as per work requirements.
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RANGE

This section provides work environment and conditions to which the performance criteria apply.

It allows for different work environment and situations that will affect performance.

Variable	Range
1. Work drawings may include but are not limited to:	<ul style="list-style-type: none"> • Structural drawings • Architectural drawings
2. Farm structures and roads construction tools and equipment may include but are not limited to:	<ul style="list-style-type: none"> • Farm tractor • Scraper • Roller • Mower • Grader • Hand tools
3. Farm structures and roads maintenance tools and equipment may include but are not limited to:	<ul style="list-style-type: none"> • Hand tools • Wheelbarrow • Farm tractor • Scraper • Roller • Mower

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

Required knowledge

The individual needs to demonstrate knowledge of:

- Field assessment procedures
- Different land condition
- Soil and water conservation
- Interpretation of drawings

- Numerical analysis
- Occupational safety and health procedures

Required Skills

The individual needs to demonstrate the following skills:

- Logical thinking
- Problem solving
- Communication
- Analytical

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills range.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Worn personal protective equipment based on OSHA</p> <p>1.2 Prepared working drawings as per engineering standards</p> <p>1.3 Obtained design approvals as per organizational procedures</p> <p>1.4 Prepared material costs as per approved designs and drawings</p> <p>1.5 Prepared material schedule based on design and drawings</p> <p>1.6 Constructed farm structures and roads in accordance with the approved working drawings</p> <p>1.7 Carried out maintenance of farm structures and roads as per work procedure</p>
2. Resource implications	<p>The following resources should be provided:</p> <p>2.1 Appropriately simulated environment where assessment can take place</p> <p>2.2 Access to relevant work environment</p> <p>2.3 Resources relevant to the proposed activity or tasks</p>
3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Practical's</p> <p>3.2 Projects</p>

	3.3 Portfolio of Evidence 3.4 Third Party Reports 3.5 Written tests 3.6 Oral assessment
4. Context of assessment	Competency may be assessed: 4.1 Workplace 4.2 Simulated work environment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.