THE REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

BUILDING TECHNICIAN

KNQF LEVEL 6

ISCED PROGRAM CODE: 0732 554B

TVET CDACC
P.O BOX 15745-00100
NAIROBI

EXECUTE SITE PRELIMINARY WORKS

UNIT CODE: CON/OS/BUT/CR/02/6/A

UNIT DESCRIPTION

This Unit describes the competencies required to perform site preliminary works. It involves determining site boundaries, clearing building site, hoarding/screening the site, surveying the building site, preparing site layout, testing building materials, demolishing unwanted structures and preparing site preliminary report.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	**PERFORMANCE CRITERIA** *(Bold and italicized terms are elaborated in the Range)*
1. Determine site boundary and clear building site	1.1 Site boundary is identified as per local authority land survey maps 1.2 ***Clearing method*** is selected depending on ***site conditions*** 1.3 Safety requirements are identified according to clearing methods and site conditions 1.4 Site is cleared as per set procedures and safety regulations 1.5 Debris disposal is carried out as per supervisor's instructions
2. Hoard/screen building site	2.1 Hoarding/screening materials are identified 2.2 Building site is screened/hoarded as per client specifications and safety regulations
3. Survey building site	3.1 ***Survey method*** is selected according to the building design and client specifications 3.2 ***Survey instruments*** are identified according to the survey method 3.3 Reduced levels are obtained as per the site conditions 3.4 Ground contours are prepared according to the reduced levels 3.5 ***Services*** are located in relation to the site in accordance with set procedures
4. Prepare site layout	4.1 Site dimensions are measured according to architectural drawings

ELEMENT	PERFORMANCE CRITERIA *(Bold and italicized terms are elaborated in the Range)*
	4.2 ***Site facilities*** location are identified as per site plan 4.3 Site layout is prepared as per the site plan
5. Demolish unwanted structures	5.1 Area to be demolished is identified as per client needs 5.2 Demolition method is determined according to area to be demolished and environmental conditions 5.3 Local authorities and surrounding occupants are informed of the demolition work 5.4 ***Building and structural surveys*** are carried out in accordance with building standards 5.5 Hazardous materials are removed according to safety regulations 5.6 Demolition plan is prepared according to the demolition method adopted 5.7 Safety procedures are adopted as per the demolition method 5.8 Unwanted structures are demolished and disposed as per set procedures
6. Prepare site preliminary report	6.1 Cost of preliminary site activities are analysed 6.2 Data on challenges and achievements are recorded and documented 6.3 Site preliminary report is prepared

RANGE

Variable	Range
1. Clearing method may include but is not limited to:	• Manual • Mechanical • Explosives and detonators
2. Site conditions may include but is not limited to:	• Shrubs • rock outcrops • Forests/thickets • Marshy/wetlands
3. Survey method may include but is not limited to:	• chain survey • Tacheometry •

Variable	Range
4. Survey instruments may include but is not limited to:	• Dumpy level • Theodolite • levelling staff • Ranging rod • Tripod stand • total station • GPS • Digital survey equipment
5. Services may include but is not limited to:	• water • power • sewer
6. Sampling methods may include but is not limited to:	• Random sampling • Stratified sampling • Cluster sampling
7. Site facilities may include but is not limited to:	• Site office • Welfare facilities • Storage facilities • Garage/filling station
8. Building and structural surveys may include but is not limited to:	• type of construction • building use • Construction method • Drainage conditions • Building accessibility

REQUIRED KNOWLEDGE AND SKILLS

Knowledge

- Estimation and costing
- Survey
- Report writing
- Sampling methods
- Basic arithmetic
- Plan interpretation
- Occupational safety and health
- Codes of practice
- Materials science
- Concrete mix ratio

- Construction machines, tools and equipment
- Demolition techniques
- Geology
- National laws

Skills

- Estimation and costing
- Basic mathematic skills
- Reading skills
- Communication skills
- Management skills
- Problem solving skills
- Critical thinking
- Construction tools handling skills

EVIDENCE GUIDE

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

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Determined the site boundary and screened the building site 1.2. Cleared the building site 1.3. Surveyed the building site 1.4. Prepared site layout 1.5. Demolished unwanted structures 1.6. Prepared site preliminary report
2. Resource Implications	The following resources should be provided: 2.1 Training workshops 2.2 Construction tools and equipment 2.3 Occupational Safety and health manuals 2.4 Construction manuals 2.5 Construction materials 2.6 Reference textbooks 2.7 Qualified trainers 2.8 Survey instruments
3. Methods of Assessment	Competency may be assessed through: 3.1. Practical assignment 3.2. Written Tests

	3.3. Oral Questioning
4. Context of Assessment	Competency may be assessed on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.