CONSERVE FARM WATER

UNIT CODE : 0811 341 02A

UNIT DESCRIPTION

This unit equips trainees with knowledge and skills required to use and manage water and water catchments. The unit entails selecting sustainable water supply technologies for the farm, harvesting water in the farm and irrigating crop farm. It also involves maintaining farm irrigation system.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the **key outcomes** which makeup **work place function**.	**PERFORMANCE CRITERIA** These are **assessable s**tatements which specify the required level of performance for each of the elements. ***Bold and italicized terms are elaborated in the range.***
1. Select sustainable water supply	1.1 Available ***water sources*** are identified as per work requirement. 1.2 Water for testing is collected as per work procedures 1.3 Water for testing is prepared as per work requirement 1.4 Water treatment is as carried out as per work requirement.
2. Harvest water in the farm	2.1 ***Water harvesting structure*** is identified as per work requirement 2.2 Design of water harvesting structure is drawn as per work requirement 2.3 **Personal Protective Equipment** is used as per work requirement 2.4 Water harvesting structure is constructed as per design 2.5 Functionality of the water harvesting and storage

	structures is tested and faults corrected as per work requirement 2.6 Water harvesting structure is utilized as per work requirement
3. Irrigate crop farm	3.1 Water requirements for the crop to be grown is determined as per work requirement 3.2 Irrigation system is selected as per work requirement 3.3 Irrigation system is designed as per work requirement 3.4 Tools and equipment are assembled and are used as per work. 3.5 Irrigation system is installed as per work requirement 3.6 Water is applied as per crop requirement
4. Maintain irrigation system	4.1 Faults are identified as per work requirement 4.2 Repairs of faults are carried out as per work requirement 4.3 Erosion control measures are put in place as per work requirement. 4.4 Waste water is treated as per work instructions

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	**Range**
Water sources include but not limited to:	• Wells • Rainfall • Rivers • Boreholes
Water testing include but not limited to:	• Mineral tests • PH test • Basic water test

Water harvesting structures include but not limited to:	• Farm ponds • Percolation tanks • Roof water harvesting tank • Wells • Sub surface dams • Field bunds
Personal protective equipment include but not limited to:	• Cover rolls • Gum boots • Gloves goggles • Hard huts
Tools and equipment include but not limited to :	• Tools for designing • Tools and equipment for construction • Tools and equipment for repair and maintenance
Irrigation systems include but not limited to:	• Drip irrigation • Sprinkler irrigation • Sub surface irrigation • Surface irrigation
Erosion and pollution control measures Include but not limited to:	2. Walk-over techniques 3. Minimal disturbance techniques 4. Crown and cross fall drainage 5. Cross bank drainage 6. Relief culverts on roads 7. Mitre and table drains on roads 8. Armouring/gravelling of roads 9. Crossing and draining surfaces 10. Batter stabilisation 11. Contour banks and channels 12. Gabions

	13.Sediment basins 14.Riparian buffer zones 15.Outlet protection structures 16.Re-vegetation

REQUIRED KNOWLEDGE AND SKILLS

Required skills

The individual needs to demonstrate the following skills:

- Literacy skills
- Numeracy skills
- Problem-solving skills

Required knowledge

The individual needs to demonstrate knowledge of:

- Environmental protection requirements,
- Organizational and site standards
- Environmental policies and
- Established communication channels and protocols
- Problem identification and common faults-finding techniques
- Types of tools and equipment and procedures for their safe use and maintenance
- Mathematical procedures for measuring and estimating, including calculating quantities and time to complete tasks

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 Selected sustainable water supply technologies for the farm as per work instructions. 1.2 Selected appropriate water harvesting and storage structures as per work instructions. 1.3 Selected appropriate an irrigation system based on work instructions 1.4 Maintained farm irrigation system based on work instructions 1.5 Performed simples repairs in the irrigation system as per work instructions 1.6 Controlled erosion in the farm as per work instructions
2. Resource Implications	The following resources must be provided: 2.1 Appropriately simulated environment where assessment can take place 2.2 Access to relevant work environment 2.3 Resources relevant to the proper activities or tasks
3. Methods of Assessment	Competency may be assessed through: 3.1 Practical 3.2 Third party report 3.3 Projects 3.4 Portfolio of evidence 3.5 Written tests 3.6 Oral questions
4. Context of Assessment	Competency may be assessed: 4.1 Workplace 4.2 Simulated work environment
5. Guidance information for assessment	The unit may be assessed alone or together with other units in this sector.