

<b>Domain</b>	<b>PLUMBING</b>	<b>Unit ID: 471</b>
<b>Title:</b>	<b>Connect and test irrigation system from drinking water supply as part of plumbing operations</b>	
<b>Level: 4</b>		<b>Credits: 6</b>

**Purpose**

This unit standard specifies the competencies required to connect irrigation and watering systems from a drinking water supply. It includes planning and preparing for work, identifying installation requirements, connecting and testing the system and cleaning up the work area.

This unit standard is intended for those who work as plumbers.

**Special Notes**

1. Entry information:
 

Prerequisite

  - 434 - *Apply safety rules and regulations in plumbing operations or demonstrated equivalent knowledge and skills.*
2. Assessment evidence may be collected from a real workplace or simulated real workplace or an appropriate simulated realistic environment in which plumbing operations are carried out.
3. Tools and equipment may include but are not limited to hand and power tools, hand excavation equipment, measuring equipment, silver solder/brazing equipment and electrical bonding/bridging strap and may also include mechanical excavation equipment, trench shoring equipment, scaffolding, elevated work platforms, hand trolleys, rollers, forklifts, chain blocks, hoists and jacks.
4. Materials may include but are not limited to steel pipes, copper tube, UPVC pipes, polyethylene pipes, valves, backflow prevention devices, joints, fittings and connections.
5. Performance of all elements in this unit standard must comply with all relevant workplace requirements and/or manufacturers' specifications.
6. Safe operating procedures include but are not limited to recognising and preventing hazards associated with the use of tools and equipment, uneven/unstable terrain, trees, trip hazards, underground services, surrounding structure and facilities, hazardous materials, other machines, working at heights, working in proximity with others, worksite visitors, the public and may include working in confined spaces.
7. Regulations and legislation relevant to this unit standard include the following:
  - Labour Act, No. 6, 1992

- Occupational Health and Safety Regulations No. 18, 1997 and all subsequent amendments.

### **Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on [www.nta.com.na](http://www.nta.com.na).

### **Elements and Performance Criteria**

#### **Element 1: Plan and prepare for work**

##### **Range**

Planning and preparation may include but is not be limited to workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements.

##### **Performance Criteria**

- 1.1 Plans and specifications are developed and interpreted in line with workplace procedures.
- 1.2 Safety requirements associated with connecting irrigation systems from a drinking water supply, and the workplace environment, are adhered to throughout the work.
- 1.3 Quality assurance requirements are developed and adhered to in line with workplace procedures.
- 1.4 Tasks are planned and sequenced in conjunction with others involved or affected by the work in line with workplace procedures.
- 1.5 Tools and equipment for connecting irrigation systems, including personal safety equipment, are selected and checked for serviceability in line with workplace procedures.
- 1.6 Work area is prepared to support the efficient connecting irrigation systems from a drinking water supply in line with workplace procedures.

## **Element 2: Determine installation requirements**

### **Performance criteria**

- 2.1 Connecting size and hazard rating is determined from plans, specifications, standards and/or site inspection.
- 2.2 Valve size determined in line with plans and specifications.
- 2.3 Back flow prevention devices are confirmed as being in line with hazard rating.
- 2.4 Materials and equipment are identified and ordered/collected in line with workplace procedures.
- 2.5 Materials and equipment are checked for compliance with standards, docket/order form for acceptable condition.

## **Element 3: Connect and test system**

### **Performance criteria**

- 3.1 Excavation is set out and made in line with plans and specifications and undertaken with consideration to existing structures/services.
- 3.2 Service pipe is isolated and cut to accommodate take off branch in line with authorities' requirements.
- 3.3 Back flow prevention device is fitted in accordance with standards and manufacturers' specifications.
- 3.4 System is connected and flushed to the required standard.
- 3.5 Water supply is restored and system tested in line with standards.
- 3.6 Ground surface is restored in line with workplace procedures.

## **Element 4: Clean up work area**

### **Performance criteria**

- 4.1 Work area is cleared and materials disposed of or recycled in line with workplace procedures.
- 4.2 Tools and equipment are cleaned, checked, maintained and stored in line with manufacturers' recommendations and workplace procedures.
- 4.3 Documentation is completed in line with workplace procedures.

## **Registration Data**

<b>Subfield:</b>	General Construction
<b>Date first registered:</b>	15 November 2007
<b>Date this version registered:</b>	15 November 2007
<b>Anticipated review:</b>	2010
<b>Body responsible for review:</b>	Namibia Training Authority