

SKILLS PROGRAMME DOCUMENT

Skills Programme Title		Domestic Water and Drainage Pipe Repairer			
NQF Level	3	Credits	49	Duration in days	61 days
Skills Programme ID Number		SP-191201			
Skills Programme Status	Approved	Start Date		End Date	
		13/11/2019		13/11/2024	
Last date for enrolment		13/11/2025	Last date for achievement		13/11/2028

SKILLS PROGRAMME DETAILS

Title	Domestic Water and Drainage Pipe Repairer	
Sub Title	642601: Plumber	
Skills Rationale	<p>There is a need for skills programmes within the plumbing industry and these skills programmes are being carefully monitored and located in the broader skills and competency framework for plumbing. This means that any skills programmes or any other initiative for developing skills within the plumbing sector need to be related to the registered plumber qualification as well as the registered designations within the sector.</p> <p>Reference is made to the continued demand that people should avoid water wastage and that every citizen has a right to clean water. It requires that the water provisioning and consumption should be constantly maintained to minimise water wastage.</p> <p>This skills programme prepares a learner to operate as a Domestic Water and Drainage Pipe Repairer.</p> <p>The qualifying learner will be able to repair and maintain, domestic water pipes, drain pipes, and sanitary drainage pipes and terminal fittings in domestic installations.</p>	
Related registered qualification/s	SAQA ID: 91782; Occupational Certificate: Plumber; NQF Level 4; Credits 360	
Purpose	<p>The purpose of this skills programme is to prepare a learner to operate as a Domestic Water and Drainage Pipe Repairer.</p> <p>A Domestic Water and Drainage Pipe Repairer repairs and maintains, domestic water pipes, drain pipes, and sanitary drainage pipes and terminal fittings in rural areas, townships and residential areas.</p>	
Content	<u>Knowledge component</u>	<u>Application component</u>

	<ul style="list-style-type: none"> • 642601-000-00-SP01-KM-01, Basic Plumbing Health and Safety, NQF level 2, Cr 1. • 642601-000-00-SP01-KM-02, Tools, Equipment and Components, NQF level 3, Cr 3. • 642601-000-00SP01-KM-03, Theory of Water and Drainage, NQF level 3, Cr 1 • 642601-000-00SP01-KM-04, Above and Below Ground Drainage, NQF level 2, Cr 3. • 642601-000-00SP01-KM-05, Terminal Fittings, NQF level 4, Cr 2. • 642601-000-00-SP01-KM-06, Hot and Cold Water Pipe Fittings, NQF level 4, Cr 12. 	<ul style="list-style-type: none"> • 642601-000-00-SP01-PM-01, Repair, Replace and Maintain Above Ground Soil Waste and Vent Drains and Pipes, NQF level 3, Cr 7. • 642601-000-00SP01-PM-02, Maintain Below Ground Drainage Pipes, NQF level 3, Cr 10. • 642601-000-00SP01-PM-03, Maintain and Repair Cold Water and Hot Water Pipes and Terminal Fittings, NQF level 3, Cr 10.
NQF Level	3	
Duration	61 days	
Credits	49	
Minimum entry requirements	NQF Level 1	
Exit Level Outcomes	<input type="checkbox"/> Maintain and repair above and below ground drainage pipes. <input type="checkbox"/> Maintain and repair terminal fittings. <input type="checkbox"/> Maintain and repair water pipes in domestic installations.	
Assessment	<p style="text-align: center;"><u>Continuous Assessment</u></p> <input type="checkbox"/> Discuss the principle of sanitation and waste water treatment, and types of water.	

	<ul style="list-style-type: none"> <input type="checkbox"/> Identify and explain the stages of waste water treatment and its relationship to the avoidance of disease. <input type="checkbox"/> Discuss the diseases caused by poor sanitation. <input type="checkbox"/> List and explain the tools used for: measuring; cutting; excavating and compacting. <input type="checkbox"/> Discuss the different types of drain cleaning equipment and mention which piece of equipment would be suitable for which type of job. <input type="checkbox"/> Explain how drain rods would be used. <input type="checkbox"/> Explain what drain cleaning equipment would be used in the absence of "inspection eyes". <input type="checkbox"/> To replace a 1m length of copper pipe in the bathroom wall: list which tools you would need; and explain how to use them. <input type="checkbox"/> Discuss the basics of tool maintenance. <input type="checkbox"/> Define the term 'drain'. <input type="checkbox"/> List and explain the basic components of drainage systems. <input type="checkbox"/> Explain the water cycle. <input type="checkbox"/> Describe and discuss the physical states of water, referring to its density expansion and contraction. <input type="checkbox"/> Discuss the importance of depth of seal. <input type="checkbox"/> Explain the function of venting. <input type="checkbox"/> Discuss the characteristics and types of waste water and water. <input type="checkbox"/> Explain the function of soil, waste and vent systems. <input type="checkbox"/> Identify the different codes of practice and explain their characteristics. <input type="checkbox"/> Explain the methods of joining above ground drainage pipes. <input type="checkbox"/> Discuss the importance of flexible joints in bends and junctions. <input type="checkbox"/> Explain the criteria for the installation of vent valves. <input type="checkbox"/> Explain how expansion and contraction affects pipe bracketing. <input type="checkbox"/> Discuss the process of excavation and the laying of pipes and fittings. <input type="checkbox"/> Compare joining a twin wall pipe with a socket, and with a rubber ring.
	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the cutting and joining of: earthenware pipes; and of cast iron pipes. <input type="checkbox"/> Explain why all bends and junctions must have a flexible joint.

- Discuss the uses, advantages and disadvantages of the different terminal fittings.
- Define the term 'cistern'.
- Explain how the beta flushing valve works.
- Define pressure and the standard unit that pressure is measured in.
- List and explain the different types of pressure.
- Define water flow and discuss how: pipe friction; velocity; backflow; water pressure; and weight and volume of water; affect it.
- List, describe, and explain the function of the different types of valves.
- Define a tap and describe the different types.
- Explain the two basic types of pipework material – and the two commonly used metal pipework materials.
- Describe the different methods of joining copper tubing.
- Explain GMS and how to join GMS pipe and fittings.
- List and describe the plastics commonly used in the Plumbing Industry; and where you would use HDPE piping.
- Explain the methods of joining HDPE piping.
- List and explain the two categories of polymer piping.
- Discuss the three most common methods of joining pressure water pipes.
- Explain – step by step – how to solder copper pipes.
- Explain how GMS piping is joined together.
- Explain the mechanical compression fitting method for joining HDPE pipes and fittings.
- Discuss measures to protect pipes from temperature change.
- Discuss the laying of pressure water pipes: underground; above ground; under wall and under surface beds; in or through floors, concrete slabs or walls.
- Explain how copper and galvanised pipes are replaced.

Supervised Assessment

	<ul style="list-style-type: none"> □ The techniques, methods, sequencing and procedures are implemented to maintain and repair above and below ground drainage pipes. (This may include, but are not limited to taps, cisterns, water pipes, valves and isolating valves, baths, bidets, washbasins and sinks). □ The techniques, methods, sequencing and procedures are implemented to maintain and repair terminal fittings. □ The techniques, methods, sequencing and procedures are implemented to maintain and repair water pipes in domestic installations.
RPL	<ul style="list-style-type: none"> • Learners will gain access to the skills programme through RPL for Access as provided for in the QCTO RPL Policy. RPL for access is conducted by an accredited institution, skills development provider or workplace accredited to offer that specific skills programme. • Learners who have already acquired competencies of modules of a skills programme will be exempted from modules through RPL. Such learners will be awarded credits towards the skills programme. • Learners who complete this skills programme will accumulate credits towards the relevant full or part qualification. The Credit Accumulation and Transfer (CAT) Policy shall apply to these learners
Work Opportunities and further learning	<p>The qualifying learner will be able to gain employment by offering plumbing hand services assisting qualified plumbers,</p> <p>Qualifying learners may also gain access to further learning opportunities in the career path to achieve the full Plumber trade qualification at NQF Level 4.</p>
Skills Development Provider Accreditation Requirements	<p>Physical Requirements:</p> <p>Demonstrate access to:</p> <ul style="list-style-type: none"> • Plumbing environment. • Hand tools per learner: hacksaw, builders' line, chalk line, spirit level, carpenter's pencil, calking gun, club hammer, cold chisel, screw driver set, wood saw. • PPE per learner: safety goggles, safety shoes, gloves. • Geyser, water pipes and fittings per learner per module according to task requirements.

	<ul style="list-style-type: none">• Access equipment according to task requirements.• Power tools: electric hammer drill, angle grinder, jig saw.• Facilities: area conducive for the installation of hot and cold-water pipes, underground, in walls and in roofs.• Area conducive to the installation of hot and cold-water pipes, underground, in walls and in roofs. <p>Human Resource Requirements:</p> <ul style="list-style-type: none">• Facilitator/learner ratio 1 to 12.• Workshop assistant/learner ratio 1 to 4. <p>Legal and Safety Requirements:</p> <ul style="list-style-type: none">• Compliant with OHS ACT requirements
--	---