ASSESSOR GUIDE

Irrigation

Title:	**Operate and Maintain Specific Irrigation Systems**						
Applied Title:	**Operate and Maintain Irrigation Systems Specific to Subtropical fruit Orchards**						
Field:	Agriculture and Nature Conservation						
Sub-Field:	Primary Agriculture						
SETA (SGB):	AgriSETA						
Skills Area:	Irrigation						
Context:	Subtropical fruit Production						
US No:	116066	**Level:**	2	**Credits:**	3	**Notional Hours:**	30
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NQF Level 2

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Directions

Please Note: There is a separate assessment guide for the learner. The learner must use this guide to prepare himself / herself for the assessment.

This assessment guide contains all necessary activities and instructions that will enable the assessor and learner to gather evidence of the learner's competence as required by the unit standard. This guide was designed to be used by a trained and accredited assessor who is registered to assess this specific unit standard as per the requirements of the AgriSETA ETQA.

Prior to the delivery of the program the facilitator and assessor must familiarise themselves with content of this guide, as well as the content of the assessment guide for learners.

The assessor, facilitator and learner must plan the assessment process together, in order to offer the learner the maximum support, and the opportunity to reflect competence.

The policies and procedures that are applicable during the execution of this assessment are available on the website of the Citrus Academy, contained in a document named Policies and Procedures for Assessment, and must be strictly adhered to. The assessor must familiarise himself with this document before proceeding.

This guide provides step-by-step instructions for the assessment process of:

US No:	116066	**Level:**	2	**Credits:**	3

The step-by-step instructions agree and are conducted in concert with the steps described in the learner assessment guide. The steps are as follows:

Step	***Description***	***Timeframe***
1	Learner Assessment Contract	Before delivery of program
2	Learner Declaration of Authenticity	Before delivery of program
3	Diagnostic Assessment of Learning Assumed to be in Place	Before delivery of program
4	Assessment Plan for Gathering of Evidence	Before delivery of program
5	Learner Formative Assessment Activities	During delivery of program, assessment after delivery of program
6	Learner Knowledge Questionnaire	After delivery of program
7	Integrated Summative Assessment Tool	After delivery of program
8	Re-assessment Procedures	After completion of assessment
9	Documentation	After completion of assessment
10	Administration and Completion of Portfolio of Evidence	After completion of assessment

Step 1

Pre-Assessment Briefing and Checklist

A pre-assessment briefing for learners is held before the delivery of the program. Use the checklist below to ensure that all these points are addressed and discussed with the learners.

Pre-Assessment Briefing Checklist		
	√	X
Organise resources – people, equipment, venue, etc.		
Explain the purpose of the assessment		
Discuss the standards or criteria to be used		
Discuss assessment roles and accountabilities		
Decide on assessment venues		
Negotiate evidence required, and where or how this evidence may be gathered		
Explain the methods of assessment that will be used during the gathering and summing up of evidence		
Negotiate the date of submission for the activity workbook and the date for the summative assessment		
Discuss resources required for the assessment e.g. equipment, materials, etc.		
Explain the procedure if the learner is found to be not yet competent		
Explain the appeal and review procedures		
Identify any potential learning barriers and negotiate strategies to overcome these		
Complete and sign the assessment plan with the learner		

The learner and assessors must sign the **Learner Contract** in the learner assessment guide.

Step 2

Learner Declaration of Authenticity

The learner is requested to complete and sign the Declaration of Authenticity in the learner assessment guide. This should be checked and co-signed by the assessor.

The format is as reflected in the learner assessment guide.

Step 3

Diagnostic Assessment of Learning Assumed to be in Place

In the learner assessment guide, the learner is asked to indicate whether they have completed the learning assumed to be in place as prescribed by the unit standard.

The assessor must guide the learners through this step, explaining in detail the content of the mentioned learning areas, because names of learning programs do not always agree with the names of the unit standards, and learners might indicate the incorrect information.

If learners indicate that they have not yet completed the mentioned unit standards, the assessor should prescribe an action plan to allow the learner to obtain the skills required by recommending additional training, competence portfolios, or the relevant RPL assessment for the given unit standards.

The format is as reflected in the assessment guide for learners. Please read it and familiarise yourself with its content.

Step 4

Assessment Plan for Gathering of Evidence

A pro-forma assessment plan for this unit standard has been drafted in the learner assessment guide. Explain the plan to the learner and complete the dates and signatures as indicated.

The format for the assessment plan is as reflected in the assessment guide for learners. Please read it and familiarise yourself with its content. Make a note of the dates agreed upon in the table provided below.

Learner and Assessor Assessment Plan		
Unit Standard	Operate and Maintain Specific Irrigation Systems	
Registration Number	116066	
Step	***Description***	***Completion / Submission Date***
Step 5	Learner Formative Assessment Activities	
Step 6	Learner Knowledge Questionnaire	
Step 7	Integrated Summative Assessment	
Step 8	Re-Assessment Procedures	
Step 9	Documentation	
Step 10	Administration and Completion of Portfolio of Evidence	

Step 5

Learner Formative Assessment Activities

The learner assessment guide contains comprehensive activities and worksheets that the learner must complete during the delivery of the learning program. It is imperative that these activities be completed as part of the learning process in order to give the learner the opportunity to develop the skills, knowledge and attitudes that are required for competence.

Learners must complete all the activities in the workbook.

Learners must be encouraged to take control of their learning by indicating areas in the workbook where they experience difficulty.

The learner hands in the learner assessment guide to the assessor or the facilitator, only if the facilitator is a subject matter expert, for the assessment of the formative assessment activities. The assessment of these activities must be done according to the prescribed benchmarks and according to the following marking matrix.

The learner should not move on to the next step before this step has been completed and learners show sufficient capacity and readiness for summative assessment. If problems areas are identified, the learner should be guided with a developmental action plan, which is documented separately and signed by the learner, the facilitator and the assessor.

Model answers are provided below.

Activity 1 – Checklist

Draw up a detailed checklist for yourself and / or the farm on which you will be performing your practical learning of everything that has to be checked prior to starting-up the pump system on a subtropical fruit farm. Ensure that you make provision for dates and signatures of the person who will be completing the checklist.

Pre-Start-Up Checklist			
Pump Station:		**Date:**	
Item	***Checked***	***Comments***	
Water Level			
Pump			
Excessive Water			
Oil Levels			
Flanges			
Gland Packaging			
Coup lings			
Mountings			
Free Rotation			
Motor/Starter Panel Dry			
Other Comments			

Filters				
Valves				
Lids				
Seals				
Flanges				
Inline Filter (Hydraulic Valves)				
Other Comments				
Valves (Manual)				
Manual Open/Close				
Spindle				
Leaks				
Other Comments				
Valves (Hydraulics)				
Settings				
Other Damage				
Other Comments				
Checked By:			**Signed:**	

Activity 2 – Worksheet

Complete the worksheet below.

What will happen if you do not grease or oil the pump and motor?	
Without lubrication the bearings would fail. This will cause the pump to break down.	
Complete: The oil level must be between the **Min** mark and **Max** mark.	
What should you do when the oil is discoloured?	
Report it to the manager.	
Describe where the water level should be.	
The water level should be above the minimum mark that has been indicated by the manager.	
Describe what will happen if you start the pump and the water level is too low.	
The pump will suck air. This in turn will cause cavitation that can damage the pump.	
Name the five main components of an irrigation system and describe their main functions.	
1. Pipe lines	**Pipes convey water between points**
Give two reasons why filters must work properly	

Give two reasons why filters must work properly.
A filter that is not working properly cause a pressure loss in the field if it is the primary filter, or will let debris through that will clog emitters.
Describe how you would check to see if the pump is primed.
Open the cock valve at the delivery side of the pump. If water squirts out, the pump is primed.
Describe how you would prime the pump on your farm.
To prime a pump that is below the water level (e.g. Pump at the bottom of the dam wall), is very easy. Open the cock valve and keep open until all the air is out and only water squirts out and then close the cock valve. The pump will then be primed. **Or** **To prime the pump using the funnel, ensure that the delivery valve is closed. Open the valve below the funnel and pour water into the funnel using a bucket. The water will enter into the pump and the air will be expelled back trough the funnel. Continue to fill the pump until the funnel is brimming with water and no more air is expelled. The pump is primed and the valve below the funnel can be closed.** **Or** **Sometimes the pump is fitted with a hand operated vacuum pump. Ensure that the delivery valve and all other valves are closed. Open the valve below the vacuum pump and start pumping the handle of the vacuum pump. Continue to pump until all the air is pumped out. The pump is primed and the valve below the vacuum pump must be closed.** **Or** **When the main line is filled with water, the line pressure can be used to prime the pump. When a non return valve is fitted at the delivery valve, the bypass valve must be opened and the cock valve as well. Air will blow from the cock valve. When water squirts from the cock valve, the pump is primed and the cock and bypass valve can be closed.**
What could be the problem if it was not possible to prime the pump?
A faulty foot valve

Activity 3 – Group Discussion
Have a group discussion on the start-up and shut-down procedures for the pump system on your farm. Discuss the following aspects: • The importance of having proper procedures in place. • The steps that would be taken during these procedures. • The assessment of whether the pump is working in the way it should. • The procedures to follow if the start-up and shut-down procedures do not go as planned and if the pump is not working as it should. Make key notes for yourself.

Start-Up Procedure

Proper start-up procedure will ensure that it is safe to start the pump, will protect the pump from mechanical failure or break down and save electricity on start-up. The proper steps for the start up procedure is:

1. **Perform the pre-start-up inspection.**
2. **Check that the pump is properly primed.**
3. **Close the delivery valve.**
4. **Start the pump by pushing the start button and remain at the panel until the pump runs smoothly (10-20 seconds). If any unusual noise or vibration occurs, immediately press the stop button.**
5. **If the pump runs normally, open the delivery valve slowly.**

Assessment of the pump working properly must be based on the pump/motor working characteristics and the fact the no unusual noise or vibration should occur. If a problem is identified during the pre-start-up inspection or start-up procedure, the pump must not be started and the problem must be reported to the manager. When a problem occurs after the pump is started, the pump must be stopped and the problem reported.

Shut-Down Procedure

Proper shut-down procedure will prevent the occurrence of water hammer. The steps for shut down is:

1. **Close the delivery valve slowly to prevent water hammer.**
2. **As soon as the valve is closed, switch off the pump.**

At times it may not be possible to close the delivery valve before switching off the pump. In such cases, the pump is switched off directly. The non-return valve and foot valve will limit some water hammer.

Activity 4 – Worksheet

Complete the worksheet below.

Why is it important to start and shut down the pump with the delivery valve closed?	
Starting the pump against a closed valve will save electricity, while stopping the pump against a closed valve will eliminate water hammer.	
What does the following gauges measure?	
Volt Meter	**Volts**
Amp Meter	**Current (amps)**
Pressure Gauge	**Water pressure**
Flow Meter	**Flow rate of the water**
What is the following scenarios indicative of?	
$Amps_{motor} = Amps_{norm}$	**This is the normal operating condition for the pump. Note that the pressure and flow readings will also be equal to the normal readings.**
$Amps_{motor} > Amps_{norm}$	**This is an overload condition. If the control panel detects an over load it will shut down the pump. If the pressure reading is lower than normal and the flow is bigger than normal, it means that too many valves are open or that a pipe has burst. If the pressure and flow is normal, it means that mechanical failure has set in (e.g. seizing**

	bearing causing excessive friction). This will be coupled to noise and vibration. The pump must be switched of and the situation reported to the manager.
Amps $_{motor}$ < Amps $_{norm}$	**This is a under load condition. If the pressure is high and the flow is low, it could be too many valves closed, dirty filter bank or a stuck / malfunctioning valve. If the pressure are very high (near the same reading as when you should close the valve), switch of the pump as the pump will over heat due to the low flow. Report these deviations to the manager. If the pressure and flow are low the pump is cavitation. This will let pump vibrate and be noisy. Switch of immediately. The pump could have sucked air or have a blocked impeller or suction strainer. Report this to the manager.**
Describe how you would measure and regulate the pressure.	
To measure the pressure using the hydromatic, you will need a pressure gauge fitted to a pipette. Insert the pipette with the gauge into the hydromatic. Make sure the latch on the pipette locks on to the hydromatic. The pressure will register on the gauge. To release the pipette, depress the pipette, unlock the latch and remove the pipette. To use the pressure point, the gauge must be fitted with a special needle. To take a pressure reading, insert the needle into the pressure point. The pressure will register on the gauge. The gauge and needle can just be pulled out of the pressure point to remove it. With a hydraulic valve the pilot valve is set to regulate the pressure for the irrigation block. It is always good practise to take a reading once the valve is open and the pressure is stable (10 – 20 minutes after opening). When a gate or butterfly valve is used the pressure must be set manually. Insert the gauge into the riser and open the valve slowly. Once the block has filled with water and the pressure stabilised, regulate the pressure by opening and closing the valve. If the pressure is below the required value, open the valve a bit. If the pressure is above the required value, close the valve a bit.	
When should inline filters be back-flushed?	
If the difference between the upstream water pressure and the downstream water pressure is greater than 0.5bar.	

Activity 5 – Worksheet	
Complete the worksheet below.	
Describe each of the following terms in your own words:	
Dry spots	**Dry spots are areas in the tree row that must be irrigated but is not. It can be caused by clogged or malfunctioning emitters**
Overlapping	**Overlapping is where the spray pattern or wetting area of an emitter overlaps the area of another emitter.**
Over-irrigation	**Over irrigation is where too much water is applied.**

09:20 close block 1 and go to block 2
09:30 open block 2
11:50 close block 2 and go to block 3
12:00 open block 3
14:20 close block 3 and go to block 4
14:30 open block 4
16:50 close block 4

Activity 6 – Checklist

Draw up a checklist for using, storing and maintaining the general tools that are required to maintain the irrigation system. These tools include pliers, wrenches, screwdrivers, spades and anything else you can think of.

Checklist	Comment	Action Taken
Are the tools stored in the proper place?		
Are the tools clean and dry?		
What is the general condition of the following tools:		
1. Pliers		
2. Spanners and wrenches		
3. Screw drivers		
4. Spades and picks		
5. Pressure gauges		
6. Grease and oil cans		
7. Other tools		
Are all the tools accounted for?		

Marking Matrix and Assessor Report for Formative Assessment Activities Formative Evidence Collection Summary for Unit Standard 116066 – Level 2					
	Action Required from Learner to Develop Competence	***Competence Assessments***	***Standard for Activity***	***Allocation of Marks***	***Feedback to Learner and Comments on Evidence***
Specific Outcome 1: **Perform pre-start-up inspection applicable to the relevant irrigation system** *Range:* Pre-start-up inspection includes but is not limited to routine pump/motor/filter maintenance (grease/oil/cleaning), checking if water available in rivers, dams, canals, etc., checking for water leaks, differences in pressure, valve status (open/closed)	Attend classroom lesson, participate and ask questions	Activities in learner activity book were completed correctly	Activity answers must be at least 85% correct	As per model answer sheet	
Specific Outcome 2: **Perform start-up and shutdown procedures applicable to the relevant irrigation system** *Range:* Includes but is not limited to monitors revs, amps, kW, flow and pressure readings, checking for leakages, identifying motor/pump defects (noisy bearings), etc.	Attend classroom lesson, participate and ask questions	Activities in learner activity book were completed correctly	Activity answers must be at least 85% correct	As per model answer sheet	
Specific Outcome 3: **Irrigate crop according to given guidelines**	Attend classroom lesson, participate and ask questions	Activities in learner activity book were completed correctly	Activity answers must be at least 85% correct	As per model answer sheet	

Marking Matrix and Assessor Report for Formative Assessment Activities Formative Evidence Collection Summary for Unit Standard 116066 – Level 2					
	Action Required from Learner to Develop Competence	***Competence Assessments***	***Standard for Activity***	***Allocation of Marks***	***Feedback to Learner and Comments on Evidence***
Range: Includes but is not limited to standard operating procedures such as fixing, repairing and reporting of non-conformance of equipment. Quality checks can include but are not limited to checking the irrigation system for leakages, overlapping, dry spots and blocked nozzles, etc.					
Specific Outcome 4: **Care and maintain equipment and tools used during irrigation** *Range:* Includes but is not limited to pipes, pressure gauges, nozzles, pliers, filters, flow gauges, etc.	Attend classroom lesson, participate and ask questions	Activities in learner activity book were completed correctly	Activity answers must be at least 85% correct	As per model answer sheet	
US CCFO: Problem solving					
US CCFO: Teamwork					
US CCFO: Organising					
US CCFO: Information					
US CCFO: Communication					
US CCFO: Science					
US CCFO: Self-development					
US CCFO: Related systems					
US CCFO: Problem solving					

Assessment Feedback Form – Activity Workbook			
	Comments / Remarks		
Feedback to learner on assessment			
Feedback from learner to assessor			
Learner's Signature		**Date:**	
Assessor's Signature		**Date:**	

Step 6

Learner Knowledge Questionnaire

Before the summative task is undertaken, the learner must be reminded of what is expected from him / her in terms of summative and reflexive competence. Read and explain to the learner this section in the learner assessment guide. The learner and assessor must sign off this section to acknowledge that this step was completed.

- Use the planning and questioning format below to help you collect evidence for foundational and embedded knowledge as prescribed by the outcomes of the unit standards.
- Provide the questions as listed to the learners as a guide.
- Ensure that you apply the exact same methodology for each learner in order to ensure that VACS principles are adhered to.
- The benchmark for learner competence is an 85% overall test score.
- Only a suitably qualified and registered assessor who is ALSO a subject matter expert in this specific field can mark this assessment tool for learner assessment.
- If no such a person can be found to assess the learner, then it is advised that a qualified assessor consults with the appropriate subject matter expert prior to the assessment in order to establish key points for competence and / or uses model answers as supplied by a subject matter expert to allocate marks. The subject matter expert should be consulted for any answers that the assessor might have queries on.
- Use a header in the following format for each test paper:

Unit Standard:	116066	**NQF Level:**	2
Learner Name			

- The assessor should copy and paste as required and hand out the questionnaire to learners.

Test Questions

1. Why is there a pre-start-up procedure for the irrigation system?
The pre-start-up procedure ensures that every thing is in a proper and working order before the irrigation system is started.
2. Why is it important that the filters of the irrigation system be in a working condition?
Filters that don't work properly, can cause the pump to fail (because of a blocked impeller or cavitation) or blocked emitters or poor infield pressure.
3. What is the purpose of the filters in the irrigation system?
Filters remove impurities and debris from the irrigation water and thus preventing pump failure and blockage of emitters
4. Why are the oil levels of the irrigation system thoroughly checked before starting up the irrigation system?

Pumps and motors run on bearings that are lubricated by oil. Proper lubrication will prevent bearings from ceasing.
5. What does it mean to prime a pump?
Priming is the process where a pump is filled with water and the air inside the pump expelled.
6. Why are pumps primed?
Pumps must be primed in order for it to draw water from the water source. If a pump is not primed, it will cavitate.
7. Why are there pressure control valves on an irrigation system?
Pressure control valves are used to regulate the pressure and flow inside a irrigation system
8. How do you know if the irrigation system is operating at the correct pressure?
A pressure reading must be taken by using a pressure gauge that is fitted with a pipet or a needle.
9. Name three problems that often occur while irrigating?
Any 3 of the following: • **Leaks** • **Dry spots** • **Over lapping** • **Over and under irrigation**
10. What will happen if you encounter problems while irrigating?
Remedial action must be taken where possible. For example clean a clogged micro spray, repairing small leaks or checking pressure. Larger problems must be reported to the irrigation manager.
11. What is an irrigation schedule?
An irrigation schedule is a schedule that determines the cycle times and stand times by which blocks are irrigated.
12. Do all orchards always receive exactly the same amount of irrigation? Explain your answer.
No. Scheduling varies depending on crops, varieties and tree age.
13. Why is an irrigation system shut down after irrigation?
An irrigation system is shut down after irrigation to prevent the wastage of water and electricity.
14. What happens if the tools used to maintain the irrigation system isn't kept in the correct working condition?
Tools that are not kept correctly will have a shorter service life and won't work properly.

Step 7

Integrated Summative Assessment Tool

Two assessment tools are provided in this step, being:

1. Practical Assessment Tool
2. Attitudes and Attributes Assessment Tool

These assessment tools have been drafted in its entirety and follows below. It must be copied and completed for every learner in the same manner and according to the same procedure.

Learners must not be given these tools in preparation for summative assessment. This corresponding step in the learner assessment guide is a direct reflection of these tools and is drafted in a format that is appropriate to the learner's level of language competence.

1. Practical Assessment Tool

- All the sections of this document must be completed and signed where appropriate by the learner and the assessor.
- The learner must be given appropriate feedback and told whether they were declared competent or not yet competent. The assessor must record the appropriate commentary and guide the learner with detailed action plans for areas where the learner is found not yet competent.
- In line with the policies and procedures, the assessor must offer learners an opportunity for feedback on the assessment as well as an opportunity to appeal against the declaration.
- Should learners be found not yet competent, a detailed action plan with specific commentary on development must be drafted together with the learner and the facilitator in order to develop the necessary competence. A date for re-assessment must be agreed upon with the learner.
- All the evidence must be signed and copied, if necessary, to be placed in the learner's portfolio of evidence.
- Use this checklist to help collect evidence of practical competence as prescribed by the specific outcomes of the unit standards.
- Ask the questions as listed in order to test foundational and reflexive competence relevant to the specific task.
- Ensure that the exact same methodology is applies for each learner in order to ensure that VACS principles are adhered to.
- The benchmark for learner competence in this tool is 85% in EVERY task.
- This assessment tool can only be used for learner assessment by a suitably qualified and registered assessor who is ALSO a subject matter expert in this specific field.
- If no such a person can be found to assess the learner, then it is advised that a qualified assessor consults with the appropriate subject matter expert prior to the physical assessment in order to establish key points for observation. The subject matter expert should attend the assessment in order to judge competence of the learner.

2. Attitudes and Attributes Assessment Tool

- Use this rating scale to judge the learner's CCFO competence according to the unit standard.
- The learner's entire performance and all the stages of learning, as well as all gathered evidence must be considered for this section.
- It is advised that the assessor consult with facilitators, mentors, coaches and supervisors in order to ensure that an objective rating is allocated.
- A rating between 1 and 5 should be given, as follows:

Rating	***Description***
1	No evidence can be found
2	The evidence found is weak and this is still a major development area for the learner
3	The evidence found meets the average expectation for a learner on this level
4	The evidence found is of a high quality and exceeds the average standard expected
5	The evidence found is outstanding and the learner attitudes and traits are very well developed

- Leaner must be given constructive feedback on each rating.
- Ensure that you apply the exact same methodology for each learner in order to ensure that VACS principles are adhered to.
- The benchmark for learner competence in this tool is 3:5 in EVERY CCFO.

At the end of this step, an assessment feedback form is provided which must be completed and signed by the assessor, learner and moderator, where applicable.

Practical Assessment Tool				
Unit Standard:	116066		**NQF Level:**	2
Learner Name				
Tasks and Question	***Criteria Checked For / Key Concepts Observed*** (to be completed as per the real contexts and examples used whilst in the field)	***Learner Competent***	***Learner Not Yet Competent and Recommended Revision***	***Assessor Comments***
1. Perform pre-start-up inspection applicable to the relevant irrigation system				
• What do you have to do before starting up the irrigation system?				
• What do you have to inspect?				
• When are you ready to consider starting up the irrigation system?				
2. Perform start-up and shutdown procedures applicable to the relevant irrigation system				
• How do you start up the irrigation system?				
• Is there anything you have to check while the irrigation system is running?				
• Is there anything that can go wrong while the irrigation system is running?				
• How can you prevent this?				
• What must you do if this happens?				
• What must you do before shutting				

down the irrigation system?				
3. Irrigate crop according to given guidelines				
• How do you know how much to irrigate?				
• How do you know when to irrigate?				
• How do you know where to irrigate?				
• What do you check for when a block is being irrigated to monitor quality?				
4. Care and maintain equipment and tools used during irrigation				
• How are filters maintained?				
• What are the general tools that you have to use to maintain the irrigation system?				
• What are the correct ways to work with each tool?				
• What are the correct ways to care for the tools?				
• What are the correct ways to store the tools?				
• Who do you have to inform of damaged tools?				

*These are generic questions that will differ from irrigation system to irrigation system and farm to farm. No model answers are thus supplied.

Attitudes and Attributes Assessment Tool

Use the following rating table in this assessment:

Rating	***Description***
1	No evidence can be found
2	The evidence found is weak and this is still a major development area for the learner
3	The evidence found meets the average expectation for a learner on this level
4	The evidence found is of a high quality and exceeds the average standard expected
5	The evidence found is outstanding and the learner attitudes and traits are very well developed

CCFO Criteria	***Rating***
Identifying – The learner can identify problems and deficiencies correctly.	
Working in a Team – The learner is able to work well as member of a team.	
Organising – The learner works in an organised and systematic way whilst performing all tasks and tests.	
Collecting – The learner is able to collect the correct and appropriate information and samples as per the instructions and procedures that he or she was taught.	
Communicating – The learner is able to communicate his or her knowledge orally and in writing, in a way that shows what knowledge he or she has gained.	
Science – The learner bases tasks and answers on scientific knowledge learnt in the module.	
Demonstrating – The learner is able to show and perform the tasks required correctly.	
Contributing – The learner is able to link the knowledge, skills and attitudes that he or she has acquired in this module of learning to specific duties in their job or in the community where he or she lives.	

Assessment Feedback Form			
	Comments / Remarks		
Feedback to learner on assessment and / or overall recommendations and action plan for competence			
Feedback from learner to assessor			
Assessment Judgement	You have been found: ❍ Competent ❍ Not yet competent in this unit standard	Actions to follow: ❍ Assessor report to ETQA ❍ Learner results and attendance certification issued	
Learner's Signature		**Date:**	
Assessor's Signature		**Date:**	
Moderator's Signature		**Date:**	

Step 8

Re-Assessment Procedures

- Note that only outcomes on which the learner was found not yet competent must be re-assessed.
- The same procedures in steps 6 and 7 are repeated.
- The tool must be adapted at discretion of the assessor. Best practice is not to present the exact same format and questions if possible.
- Use your expertise and judgement to ensure that the method of re-assessment remains integrated and relevant to the expected outcomes.

Step 9

Documentation

The following documentation is addressed in this step:

1. Learner and assessor information reports;
2. Assessor report and summative evidence collection summary;
3. Learner assessment re-actionnaire;
4. Assessor's assessment review and improvement document;
5. Assessment appeal form

1. Learner and Assessor Information Forms

The learner information form is in the assessment guide for learners. The assessor information form follows. These forms must be completed for each individual learner and placed in the learner's portfolio of evidence.

2. Assessor Report and Summative Evidence Collection Summary

This report follows after the information report. Use it to summarise the findings during assessment. Please complete the copy of this report that is in the learner assessment guide.

3. Learner Assessment Re-Actionnaire

A pro-forma for the learner assessment re-actionnaire is included in the learner assessment guide. Ask the learner to complete this form and sign it.

4. Assessor's Assessment Review and Improvement Document

The assessor is expected to complete the assessor review of the assessment process, using the pro-forma document of which an example follows. Please complete the copy of the document in the learner assessment guide. This document must be discussed with the learner and any learner commentary should be recorded.

5. Assessment Appeal Form

The assessment appeal form is also provided in the learner assessment guide. Assist the learner to complete the document if necessary.

The learner must be requested to sign-off all reports and documents before they are placed in the portfolio of evidence.

Assessor Information Form				
Unit Standard	116066			
Program Date(s)				
Surname				
First Name				
Company Name				
Job / Role Title				
Home Language				
Gender	Male		Female	
Race	African	Coloured	Indian/Asian	White
Employment	Permanent		Non-permanent	
Disabled	Yes		No	
Date of Birth				
ID Number				
Contact Telephone Numbers				
Email Address				
Postal Address				

Assessor Report and Formative and Summative Evidence Collection Summary for Unit Standard 116066 – Level 2					
Description	***Evidence Gathered***		***Benchmark***	***Competent / Not yet Competent***	***Feedback and Comments***
	Foundational and Embedded Knowledge	**Practical Skills, Underpinning Knowledge and Reflexive Competence**			
Specific Outcome 1: **Perform pre-start-up inspection applicable to the relevant irrigation system**	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	85% competence in all areas		
Specific Outcome 2: **Perform start-up and shutdown procedures applicable to the relevant irrigation system**	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	85% competence in all areas		
Specific Outcome 3: **Irrigate crop according to given guidelines**	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	85% competence in all areas		
Specific Outcome 4: **Care and maintain equipment and tools used during irrigation**	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	85% competence in all areas		
Embedded Knowledge: The learner is able to demonstrate a basic knowledge of: 1. Occupational Health and Safety Act 2. Tools and equipment used during irrigation	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	Attend all lectures Complete workbook as per instruction Practical questionnaire Summative test	Overall minimum test score of 85%		

Assessor Report and Formative and Summative Evidence Collection Summary for Unit Standard 116066 – Level 2					
Description	***Evidence Gathered***		***Benchmark***	***Competent / Not yet Competent***	***Feedback and Comments***
	Foundational and Embedded Knowledge	**Practical Skills, Underpinning Knowledge and Reflexive Competence**			
3. Attributes of all tools and equipment used e.g. pumps, pressure gauge, valves, etc 4. Auditory perceptions of non-conformance of e.g. noise from pumps 5. Visual perceptions of non-conformance e.g. smoke coming from pumps 6. Implications of not reporting defective equipment and tools 7. Implications of mist spray, over- and/or under irrigation, over- and/or under pressure of pumps 8. Routine irrigation system operational and maintenance procedures					
Unit Standard CCFO's: • Problem solving • Teamwork • Self-organisation • Information evaluation • Communication • Science and technology • Inter-relatedness of systems • Self-development • Inter-related systems	N/a	Rating Scale	Minimum rating of 3:5 in each criteria or overall average of 3:5		

Assessor's Assessment Review and Improvement Document	
Issues	**Comments**
Did the assessment go according to plan?	
Did anything unexpected happen?	
Were you pleased with the assessment decision; i.e. was it what you expected?	
How could the process have been carried out more efficiently?	
How could the process of assessing the knowledge be improved?	
How could the Performance Observation checklist be improved?	
Was the evidence you gathered sufficient to make a judgment of competence?	
Was the way you obtained feedback from the learner effective?	
Were you pleased with the way you communicated your decision to the learner? If not, how could this have been improved?	
How would you improve the assessment process?	

Any learner has the right of appeal against any not-yet-competent decision by the assessor. If the learner wishes to appeal, please assist him / her to complete the form below.

Appeal Form			
I hereby appeal against the outcome of my assessment.			
Date:			
Learner's Name:			
Assessors Name:			
Organisation:			
Assessment Details: Criteria, role, standards Used, etc.			
Issue to be Reviewed:			
Learner's Signature		**Date:**	
Assessor's Signature		**Date:**	

Step 10

Administration and Completion of Portfolio of Evidence

All the documents or copies thereof, as prescribed previously, must be kept on file as part of the learner portfolio of evidence.

Learner's portfolio of evidence must be readily available for internal and external moderation and verification by the appropriate practitioners, until after the verification process has taken place. The portfolio of evidence may then be kept or returned to the learner according to the service provider's policy.

The prescribed learner results form should be submitted to the ETQA or the National Learner Database as per the SETA procedure.