

## Presentation Instructions

Who is this presentation for?

The trainer and learners.

What is in this Presentation?

- Course information that matches the Learner Guide content.
- Review questions and model answers.
- Slides contain summarised content, with full notes and information for the trainer, visible when the slide show is shown in "Presenter View" (see instructions on next slide).
- Use this presentation to support and reinforce the training information from the Learner Guide.

What do you need to do before you use it for the first time?

1. Rebrand the presentation.
2. Review the presentation as part of your validation process.

Evaluation

## Instructions for Viewing in Presenter View

**NOTE:** This view is only applicable when the computer is connected to a second screen or a data projector.

Once the second screen/projector is connected make sure that the "Use Presenter View" box is ticked.

This is found in the "SLIDE SHOW" tab as shown below.



# **RIGER#203#**

**INSTALL SUBISOIL DRAINAGE**



**TRAINING  
PRESENTATION**

**Evaluation**

## Training Presentation Sections

Click on a box to go to that section.



Section 1:  
Plan and Prepare for Work



Section 2:  
Set Out Excavation and  
Install Bedding



Section 3:  
Install Sub-Soil Drainage

RIGOR 203F

Section 1:  
Plan and Prepare for Work



Evaluation only

## 1.1 Introduction

These materials are based on the national unit of competency **RIICRC203E Install Sub-Soil Drainage Systems**. You will learn about:

- ◆ Planning your work and preparing the area.
- ◆ Setting out for the job.
- ◆ Excavating trenches.
- ◆ Installing bedding materials.
- ◆ Installing sub-soil drainage.
- ◆ Cleaning up.



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- ◆ Excavating trenches.
- ◆ Installing bedding materials.
- ◆ Installing sub-soil drainage.
- ◆ Cleaning up.

### 1.1.1 What is Sub-Soil Drainage?

Sub-soil drainage is a drainage system designed to be installed in the ground to remove excess water from soil. This is to prevent damage to buildings and landscapes from wet soil. Common types of sub soil drainage systems include:



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### 1.1.1 What is Sub-Soil Drainage?

#### **Perforated Pipes with or without Geo-textile Fabrics**

These systems are the most common type of sub-soil drainage and involve the installation of a pipe underground with small perforations (holes) which filter water runoff to remove any sediment (dirt and debris). These drainage systems may or may not include the use of geo-textile fabrics. Geo-textile fabrics increase the drainage systems ability to filter out sediment from runoff water.



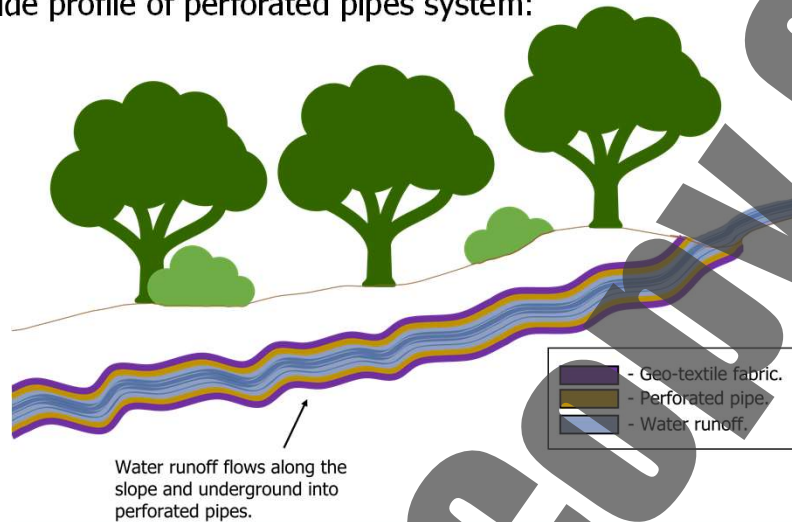
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### 1.1.1 What is Sub-Soil Drainage?

Side profile of perforated pipes system:



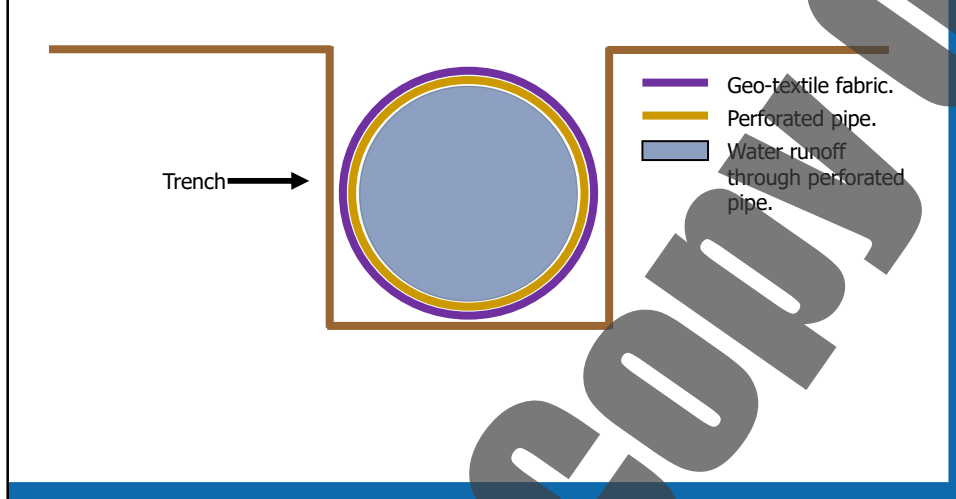
Side profile of perforated pipes system:

Water runoff flows along the slope and underground into perforated pipes.

**See diagram.**

### 1.1.1 What is Sub-Soil Drainage?

Cut-through section of perforated pipes system:



Cut-through section of perforated pipes system:

**See diagram.**

### **1.1.1 What is Sub-Soil Drainage?**

#### **Granular Materials Enclosed in Geo-textile Fabric**

These systems involve the packing of geo-textile fabrics with granular materials like sand or fine pebbles which act in a similar way to a perforated pipe by further removing sediment from the runoff water stream flowing beneath the surface.

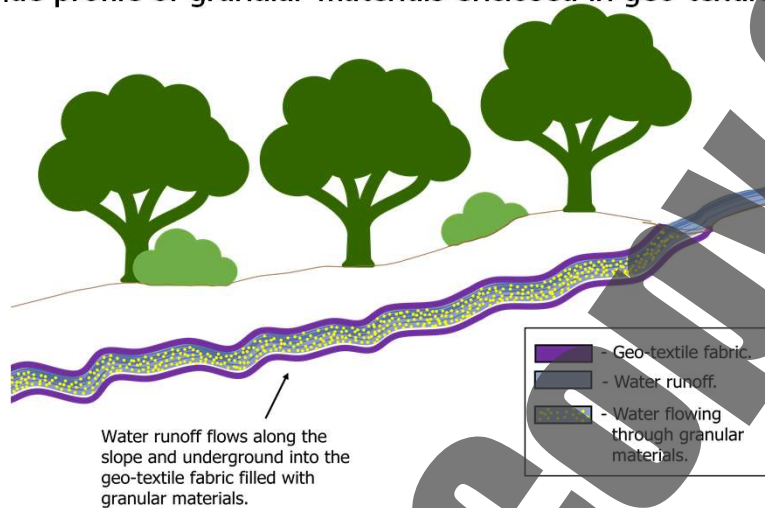


#### **Granular Materials Enclosed in Geo-textile Fabric**

These systems involve the packing of geo-textile fabrics with granular materials like sand or fine pebbles which act in a similar way to a perforated pipe by further removing sediment from the runoff water stream flowing beneath the surface.

### 1.1.1 What is Sub-Soil Drainage?

Side profile of granular materials enclosed in geo-textile fabric:



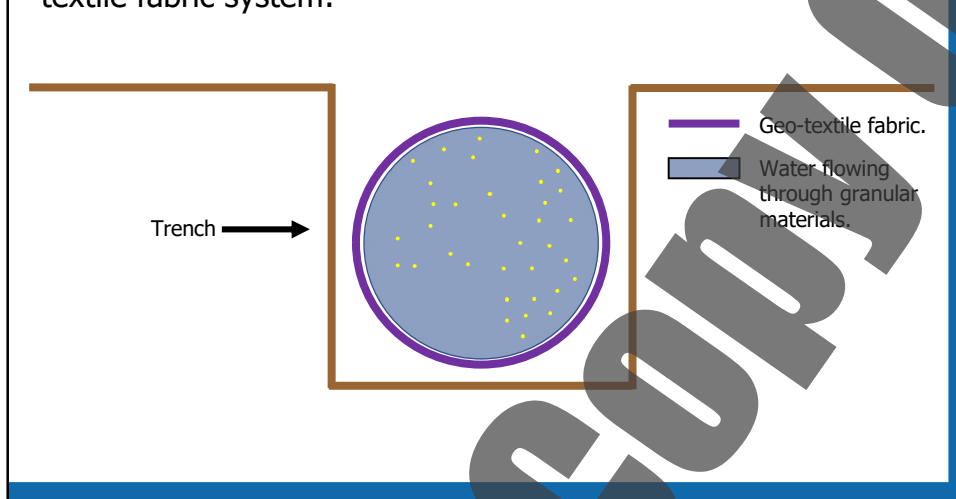
Side profile of granular materials enclosed in geo-textile fabric:

Water runoff flows along the slope and underground into the geo-textile fabric filled with granular materials.

**See diagram.**

### 1.1.1 What is Sub-Soil Drainage?

Cut-through section of granular materials enclosed in geo-textile fabric system:



Cut-through section of granular materials enclosed in geo-textile fabric system.

**See diagram.**

### **1.1.1 What is Sub-Soil Drainage?**

#### **Strip Filter Drains with Geo-Textile Fabrics**

These systems involve natural filtration of water runoff using the root systems of densely planted vegetation above ground.

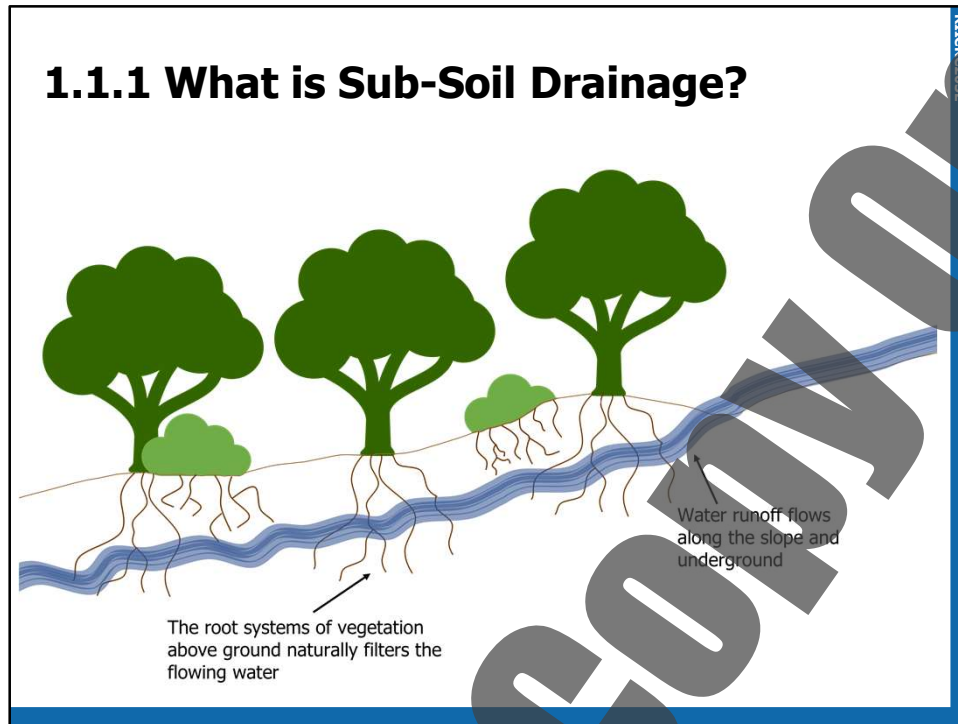
The root systems of vegetation work to mitigate erosion by reinforcing the soil in addition to filtering out sediment from the water stream.



#### **Strip Filter Drains with Geo-Textile Fabrics**

These systems involve natural filtration of water runoff using the root systems of densely planted vegetation above ground.

The root systems of vegetation work to mitigate erosion by reinforcing the soil in addition to filtering out sediment from the water stream.



Water runoff flows along the slope and underground.

The root systems of vegetation above ground naturally filters the flowing water.

**See diagram.**

**RICHARDSON**

### Section 1 Review Questions

1. Which is the most common sub-soil drainage system?



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**RICHARDSON**

### Section 1 Review Questions

1. Which is the most common sub-soil drainage system?

Perforated pipes.



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**Section 1 Review Questions**

2. Which type of sub-soil drainage system involves natural filtration of water runoff using root systems of densely planted vegetation above ground?



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### Section 1 Review Questions

2. Which type of sub-soil drainage system involves natural filtration of water runoff using root systems of densely planted vegetation above ground?

Strip filter drains.



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### Section 1 Review Questions

3. What are two (2) examples of granular materials which may be packed into geotextile fabrics as part of a sub-soil drainage system?



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