LEARNER GUIDE

LLN READY

Civil

Water Vehicle

TICKET

Training support material for:

RIIMPO326E
Conduct water vehicle operations

Produced by:

EASY GUIDES
Australia Pty Ltd

Introduction to Water Vehicles

© Easy Guides Australia Pty. Ltd.

May not be reproduced

Introduction to water vehicles

This unit may be used to demonstrate competency in the following industries:

- Coal mining
- Extractive industries
- Metalliferous mining
- Civil construction

© Easy Guides Australia Pty. Ltd.

May not be reproduced

What is a water vehicle?

A **water vehicle** is a purpose built vehicle or plant platform used to load, carry and distribute water on roads or worksites. This guide covers water carts in the **civil construction** industry.

Water carts include:

- Diesel-mechanical
- Diesel-electric
- Rigid or articulated steering vehicles.

Articulated steering means the front of the truck bends behind the cab and the rear tank can move independently.

Rigid trucks can't do this, and steer using the front wheels.

Articulated body

Rigid body

Note:
In this Learner Guide, the terms **water cart** and **water vehicle** are used to mean the same type of

© Easy Guides Australia Pty. Ltd.

May not be reproduced

Water vehicles and their uses (civil construction)

In **civil construction**, water carts are used for dust control, and to make sand, gravel or other materials easier to work with.

The type of water cart you will drive depends on the ground conditions and access to the site.

For example, if you are working on a small country road you may use a road water cart, or smaller water cart with a slip-on tank. However, if you were working on a large civil construction site you would use a much bigger bulk water cart.

Water carts can hold a large amount of water and usually have spray nozzles or spray bars and pumps, which spray water on roads or other surfaces. Some have large water **cannons** which can spray long distances. Some spray water on the road as they drive.

Water carts have different types of spraying equipment and pump systems.

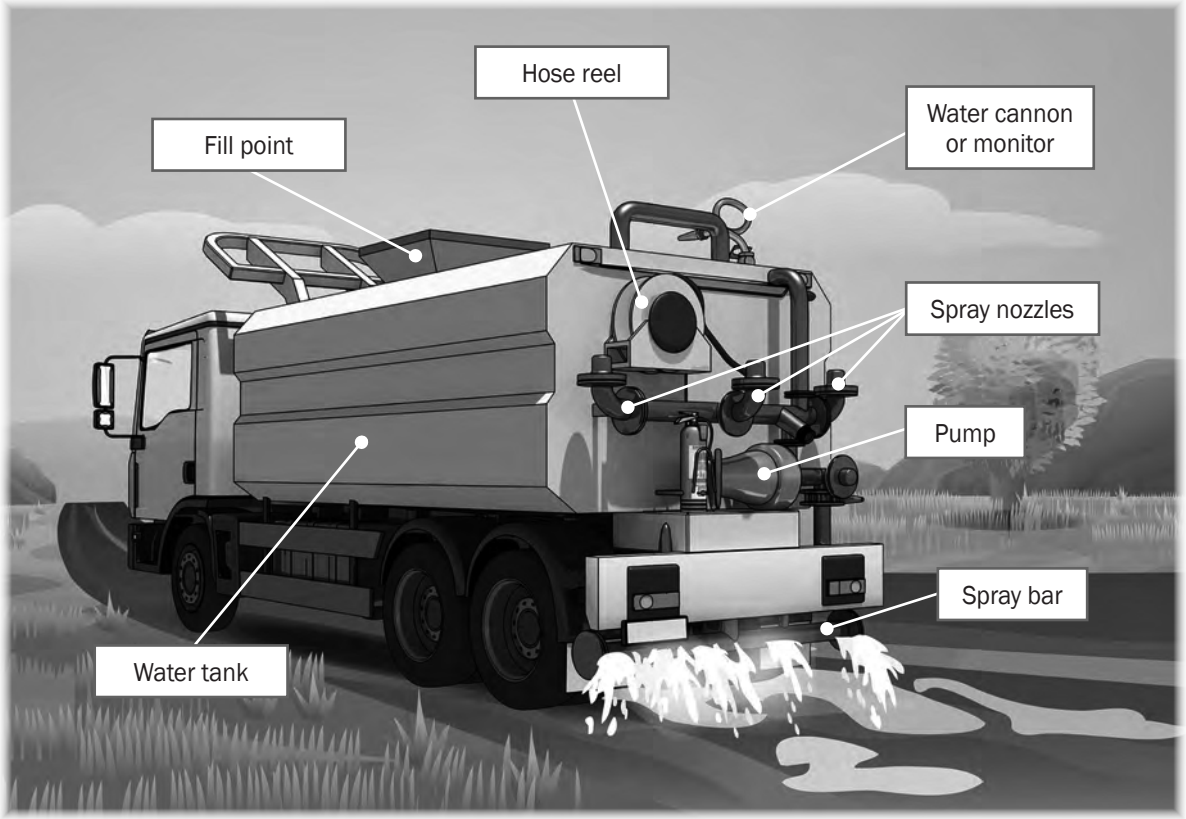
For example, most are fitted with spray nozzles or bars at the rear of the vehicle. These can spray water on to the surface using pressure pump or gravity feed.

Water is sprayed to help with soil compaction. It is also used for dust suppression, or to wash down roads to help keep them clean.

Some carts have water cannons that are used for directional spraying. They can also be used to help with fighting a fire.

Example of a water vehicle with a slip-on tank

An example of a water vehicle (civil construction)



© Easy Guides Australia Pty. Ltd.

May not be reproduced

Worker's duty of care

As a worker you must take care of your own health and safety – and the health and safety of others at the workplace. You must not put your own or other people's health and safety at risk.

Never work where you believe a hazard is a serious risk to your health and safety.

You must also:

- do your best to follow reasonable health and safety instructions from your boss (PCBU)
- follow workplace health and safety policies and procedures
- do not work where you believe a hazard would be a serious risk to your health and safety.

© Easy Guides Australia Pty. Ltd.

May not be reproduced

Plan and prepare for water vehicle operations

Chapter 1

© Easy Guides Australia Pty. Ltd.

May not be reproduced

Dust suppression theory

Understanding dust suppression theory will help you to meet the quality requirements of the job.

Dust is small particles of dirt or soil which are carried in the air.

Suppressing dust means to spray the dust with a liquid or cover the dust.

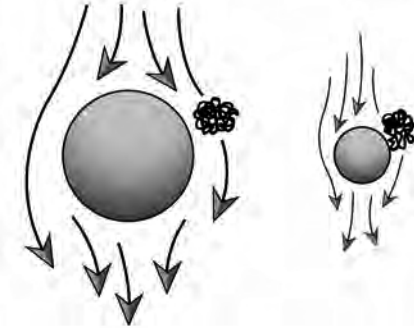
When you spray a liquid onto dust, the soil particles and the water join together. This stops the particles from rising into the air.

This creates a layer of wet soil. The layer of wet soil stops the dry soil underneath from causing more dust.

You must be careful how much water you use to suppress dust. If you use too much the soil becomes very wet and goes muddy or slushy. This makes the soil harder to work with.

Water trucks have spray nozzles which spray a fine mist. The mist makes the water droplets smaller which bond better to the dust particles. If the water particles are too big the dust particles move around the water droplet instead of clinging to it.

Water droplets bond to dust particles



© Easy Guides Australia Pty. Ltd.

May not be reproduced

QUESTION 9

If you follow the instructions for the job, will you meet the quality requirements?

Yes. The quality requirements tell you the standards you must meet when driving a water vehicle. They tell you what you need to do and how to do it to satisfy the customer.

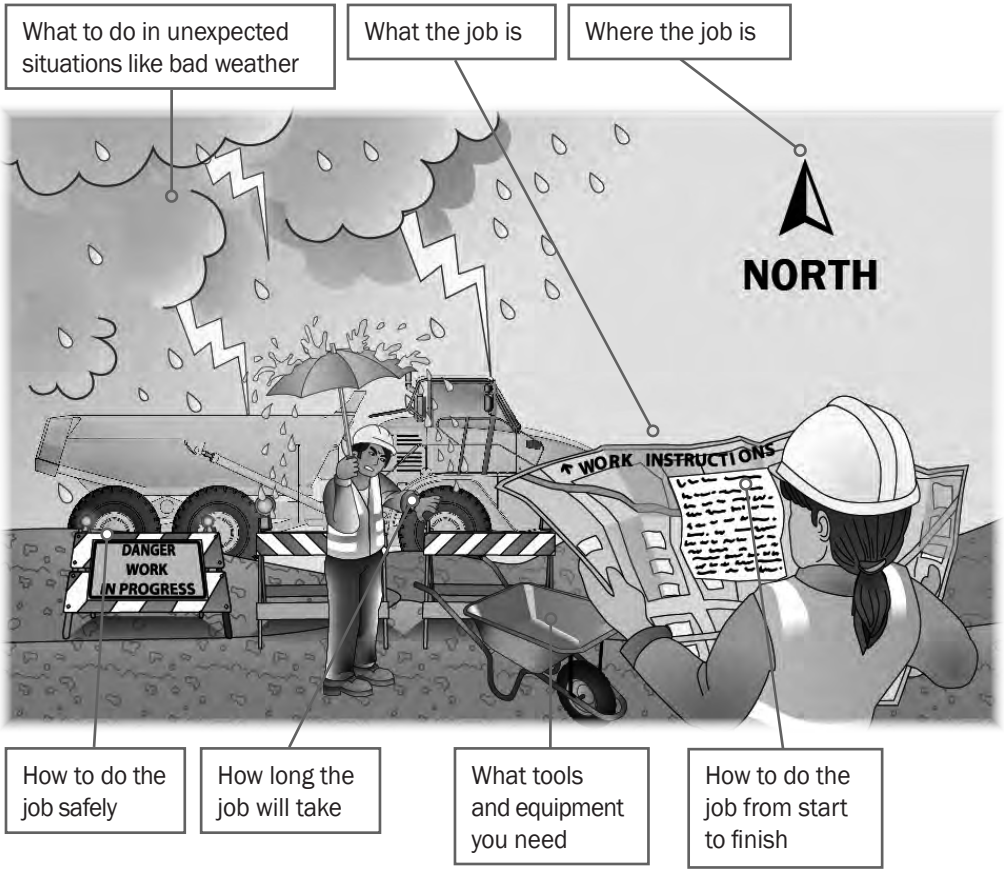
You may need to follow codes of practice, regulations, national standards etc.

For example, in this job only half the road needs to be sprayed.

QUESTION 10

What do the job's work instructions explain?

Work instructions explain:



© Easy Guides Australia Pty. Ltd.

May not be reproduced

QUESTION 11

Before you can start working on a new site, what must you do so you can start work?

Under state/territory Mining Acts, you must be familiar, authorised and signed off by your supervisor on that site before you can operate a water truck.

To get signed off, you might:

- do site training
- read site plans
- drive around the site to get familiar with it.

QUESTION 12

What does the safety plan tell you?

The safety plan tells you how the worksite intends to meet all the safety rules. It tells you:

What personal protective equipment (PPE) to wear

...CONTINUES ON NEXT PAGE

QUESTION 12

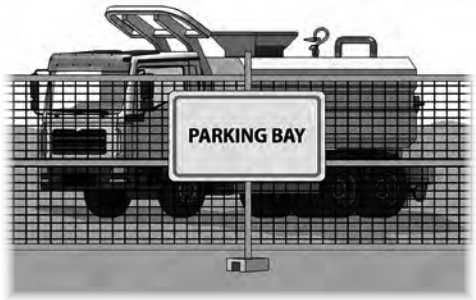
...CONTINUED FROM PREVIOUS PAGE

What does the safety plan tell you?

How to use tools, plant and equipment safely

Emergency procedures and exits

How to park safely and where to park



How to control hazards and risks

© Easy Guides Australia Pty. Ltd.

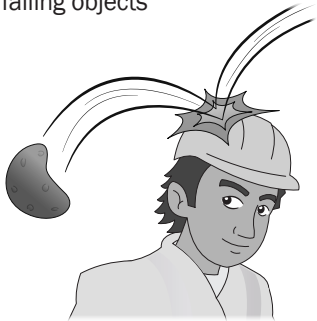
May not be reproduced

QUESTION 23

What kinds of PPE might you wear when using a water vehicle?

Explain what you use the PPE for.

You might use:

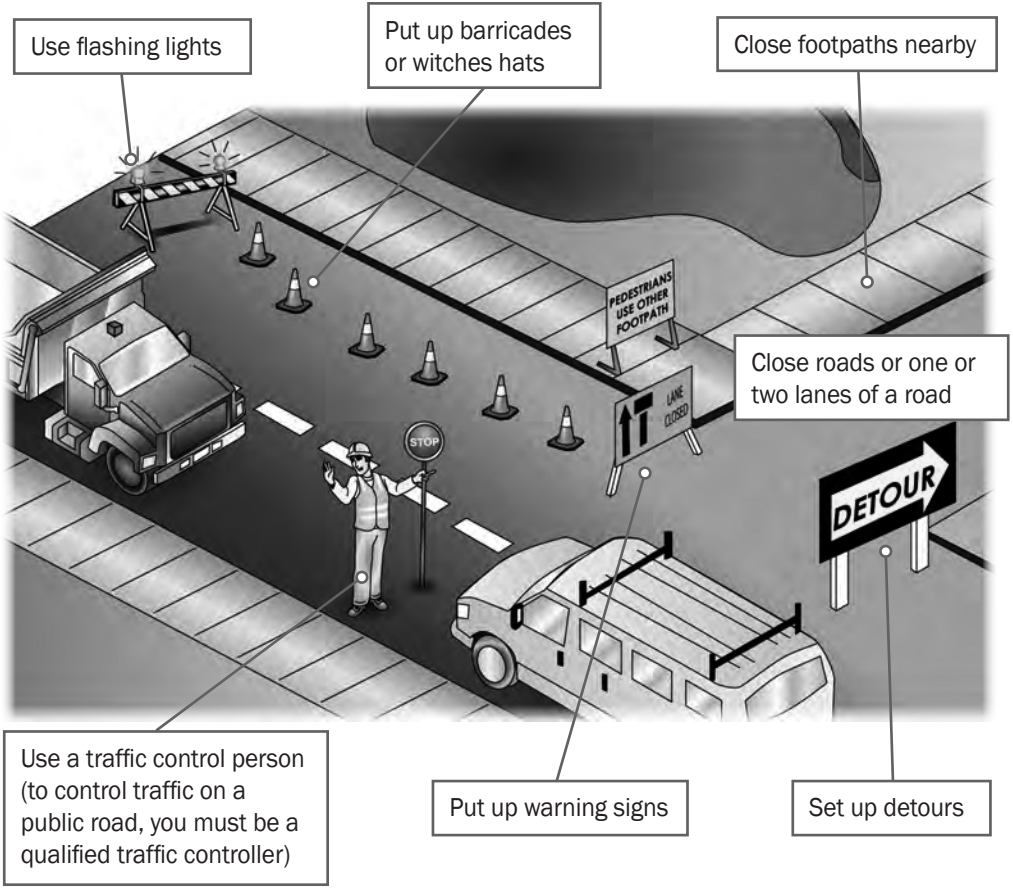
Non-slip boots that cover your whole foot. Some sites require steel-capped, lace-up boots to protect your feet	Safety vest/hi-vis clothing – to show people where you are	Hard hat/helmet – to protect your head from falling objects 
Glasses/goggles – to protect your eyes	Ear muffs – to protect your hearing	Gloves – to protect your hands when you are doing things such as checking engine coolant, brake fluid or refuelling.

© Easy Guides Australia Pty. Ltd.

May not be reproduced

QUESTION 26

What can you do to control traffic in and around a worksite?



© Easy Guides Australia Pty. Ltd.

May not be reproduced

QUESTION 27

Where do you put up warning signs?

Near underground services

Near dangerous places

In places you need to control traffic

On the site fencing

© Easy Guides Australia Pty. Ltd.

May not be reproduced

Tools and equipment

Here are some typical tools and equipment you might need. Remember, if your workplace has a policy about what PPE you need to use, you **must** use it.

Personal protective equipment (PPE)

- Steel cap boots
- High visibility safety vest
- Hearing protection
- Hard hat
- Goggles/glasses
- Gloves
- Dust mask

Hand tools

- Shovel and levels
- Socket sets
- Screwdrivers or wrenches
- Wire brush

© Easy Guides Australia Pty. Ltd.

May not be reproduced

Operate water cart

Chapter 2

© Easy Guides Australia Pty. Ltd.

May not be reproduced

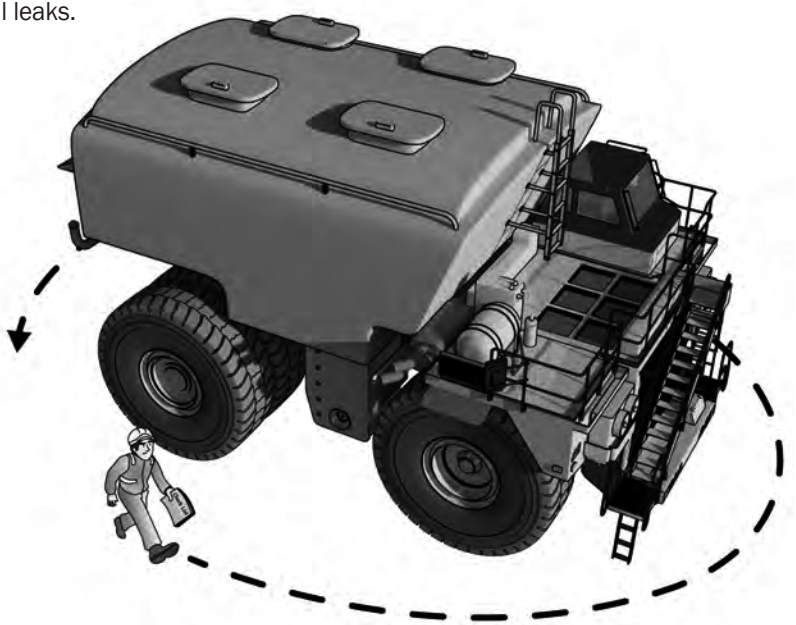
QUESTION 34

What is the first check you do on the water vehicle?

Do a visual inspection.

Walk around it and check for obvious problems including:

- Safety guards and covers
- Loose nuts and bolts
- Warning signs are in good condition
- Grease points and nipples
- Any water or oil leaks.



© Easy Guides Australia Pty. Ltd.

May not be reproduced

QUESTION 35

What are some pre-operational checks you do before using the water vehicle?

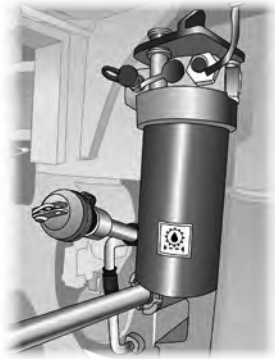
Note:
On some work sites, an authorised mechanic will do some of these checks.

Checks may include:

Do a visual check of tyre condition and pressure. Remember to check the wheel nuts.

Look for leaks under the water truck

Check transmission oil



Check hydraulic fluid (brakes and clutch)

Check engine oil

...CONTINUES ON NEXT PAGE