

Whoa-boys

Construction Pointers



TO TREAT

Eroding fence lines, firebreaks, roads and tracks

MATERIALS

1. Level (dumpy or laser)
2. Clinometer
3. Star pickets (marking pegs)
4. Grader

1. In YouTube, search: “Erosion in the Savannah Rangelands Part 2 - Drain and bank installation”.
2. Using a clinometer, determine the slope to decide how many whoa-boys are needed and the correct spacing required – see table below.
3. At each whoa-boy site survey the catchment to determine the low side of the road – where the *borrow* or *runoff collection pit* will be. On this low side, survey two level points approximately 10m apart for the *dead level sill*. Ensure that below these points the area is not disturbed, and preferably well grassed – a safe path for runoff. Survey a third point on the opposite (high side) of the road $\approx 40\text{mm}$ higher for a 20m long whoa boy (0.2% slope).
4. Using the grader, remove soil from the *borrow pit* (the soil above the two level points) to build the whoa-boy across the road directly towards the survey peg on the other side. Pits are usually 6-9m wide and 200-300mm deep.
5. Shape and batter the bank created to form the whoa-boy (recommended height: 400mm on slopes 1-2% a little higher for steeper slopes).
6. If surveyed and constructed well, the whoa-boy will have bigger slopes of 0.2% allowing water to collect and steadily runoff into the borrow pit and, once full, flow over the level sill.

See over for a diagrammatic example of how to construct a whoa-boy.

Recommended Whoa-boy Intervals

High Soil Erodibility				Low to Moderate Soil Erodibility			
Slope %	Spacing (m)	Slope %	Spacing (m)	Slope %	Spacing (m)	Slope %	Spacing (m)
1	130	5	60	2-4	200	10-15	30
2	90	6-10	40				
3	75	11-15	30	5-9	100	>15	15
4	65	>15	15				

Find more information on other methods in the “Reef Trust Phase IV Gully and Stream Bank Toolbox”.

This information sheet is provided by Fitzroy Basin Association through funding from the Australian Government and delivered through Reef Trust.



STEP 2

Use a clinometer to determine the slope to decide how many whoa-boys are needed

STEP 3

Survey to determine the low side of the road where the borrow or run-off collection pit will be dug



STEP 3

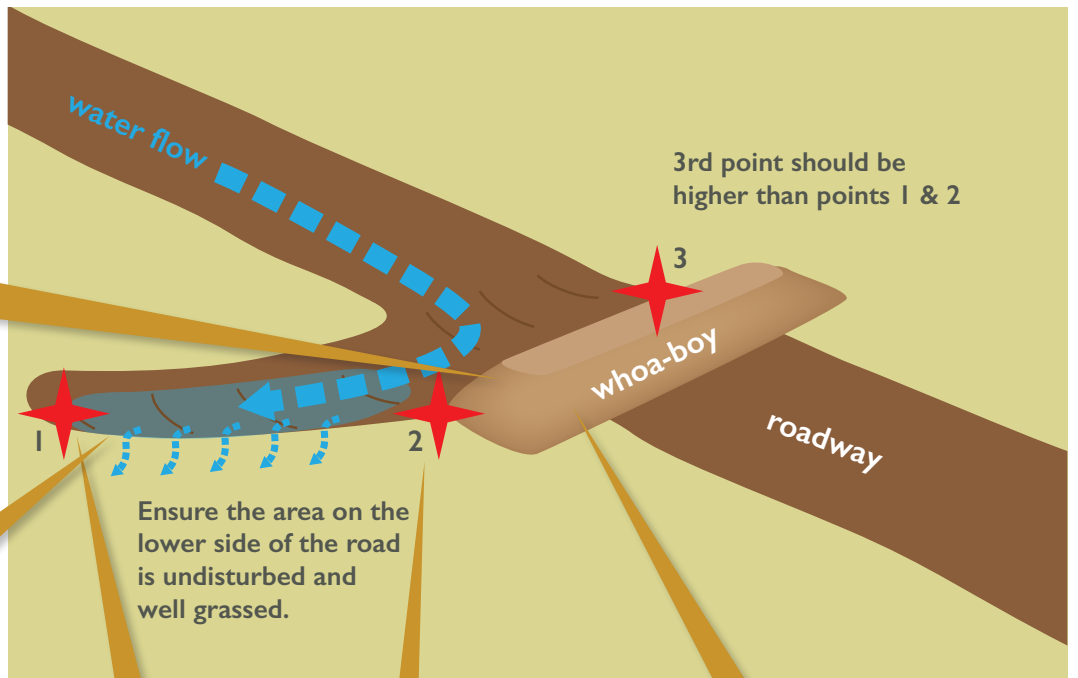
Survey a third point on the high side of the road (about 40-50mm higher than the dead level sill points for a 20m long whoa-boy)

STEP 4

Remove soil from the borrow pit (the soil between points 1 and 2) to build the whoa-boy across the road directly towards point 3

STEP 4

Borrow or runoff collection pits are usually 6-9 metres in width and 200-300mm in depth



STEP 3

To create a dead level sill points 1 and 2 must be at the same level

STEP 5

Shape and batter the whoa-boy (height recommended 400mm on slopes 1-2%)