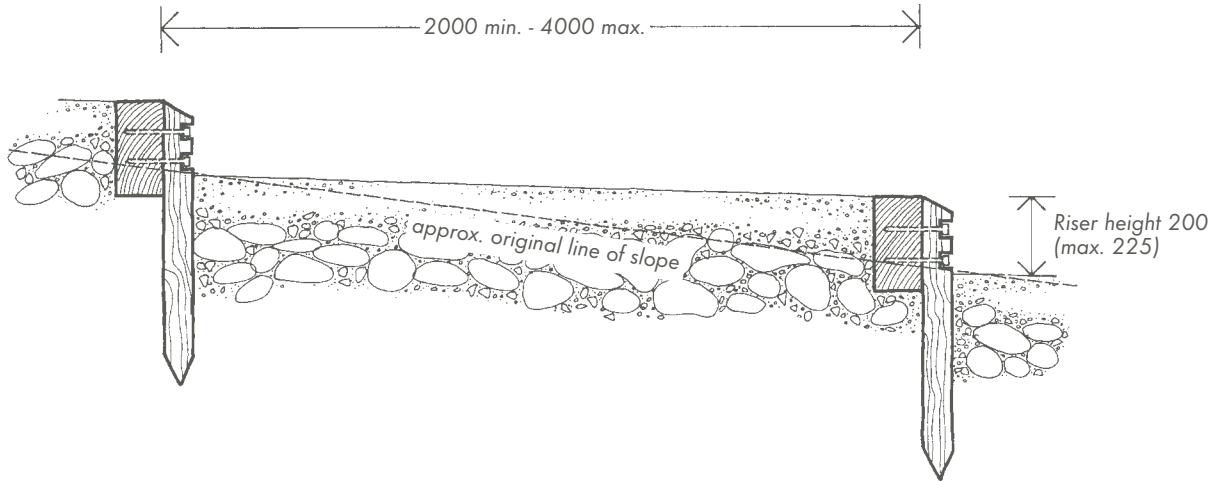


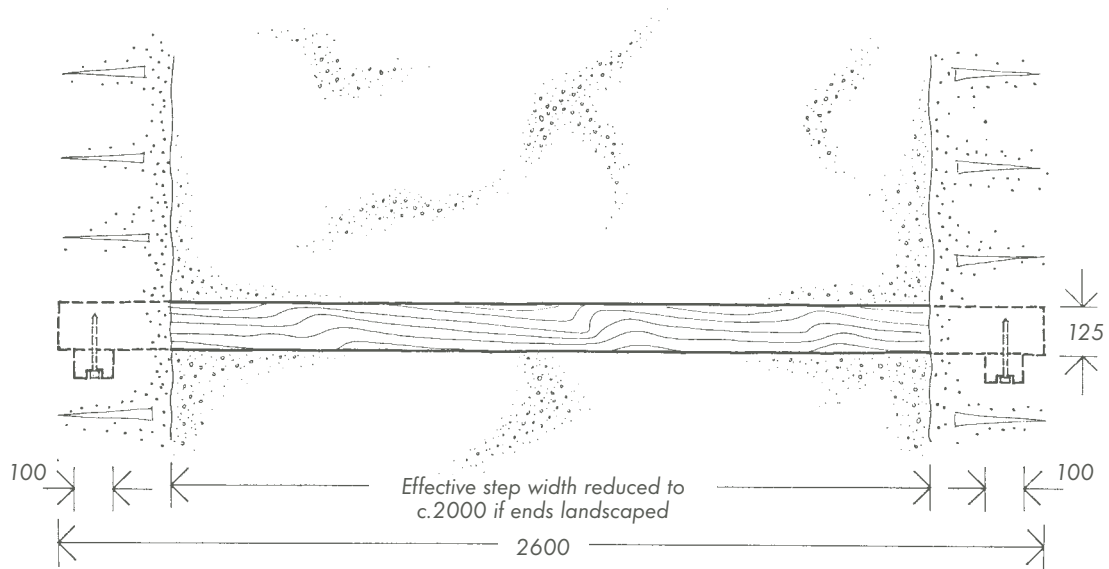


Information Sheet **No.4.2**
Ramped Sleeper and Aggregate Steps
 (Page 1 of 2)

4.2A Section
 Scale 1:20
 0 1000mm



4.2B Plan
 Scale 1:20
 0 1000mm



Suitable for Footpaths	Suitable for Paths used by Horseriders	Ease of use for Pedestrians	Accessible to Wheelchair & Pushchair Users	Guide to Suitability			
				Urban Fringe	Lowland Sites	Coastal Sites	Upland Sites
✓	✓	☺	✗ ¹	☺	☺	☺	☹

¹ ramped sleeper & aggregate steps can be reasonably accessible to people with pushchairs, provided the risers are not too high and the treads are at least 1000 - 1500mm long



Information Sheet **No.4.2** **Ramped Sleeper and Aggregate Steps**

(Page 2 of 2)

• **Notes**

A design of ramped steps that is suitable for use on paths used by pedestrians and horseriders. In common with the previous design (4.1), tread depth and step height and width can be adjusted to suit the location, the angle of slope and the level of use.

A step width of 2600, as shown overleaf, is suitable for most situations and is adequate for people and horseriders moving in opposite directions to pass each other, and for two horseriders to pass.

Round timber should not be used for the risers because it is easier for people to slip on the rounded riser edge, especially when the timber is wet. Round timber can be used for the pegs, but they do not look as professional, do not get as good a hold in the ground, and provide less support to the riser. They are, however, easier to install and may be appropriate if steps are being constructed by volunteer or unskilled labour.

• **Construction and Installation Details**

Risers : 250 x 125 x 2600 sawn timber (e.g. re-used railway sleepers).

Pegs : 2 no. 750 x 100 x 75 pointed pegs per riser, with the 100 side against the riser.

Steps should be cut into the slope rather than built up on top of it.

Sleeper risers should be installed so that the maximum riser height is 225 (preferably 200), leaving at least 25 below ground level.

Tread depth should be between 2000 and 4000.

When hammering the pegs into the ground, a steel 'turning bar' should be used to ensure that they are plumb and are kept square to the riser. After installation, the tops of the pegs should be weathered by cutting off at a 45° angle away from the riser.

Pegs should be fixed to the risers with 2 no. 150mm coach screws per peg with the heads countersunk.

Treads should be partially infilled with stone and soil gained during excavation of the steps: this should be well rammed in and firmly compacted. The top 50 -100mm should be infilled with aggregate sub-base (e.g. 25mm - dust) or preferably with 12mm - dust if available: this should also be well compacted and slightly overfilled to allow for settlement. On this type of step, which is likely to be used by horseriders, it is especially important that all fill material is very firmly compacted.

In order to shed surface water, treads should have a minimum 2° fall (max. 9°) away from the riser and a minimum 2° cross fall to the naturally draining side of the steps. If necessary, a French drain should be installed alongside the steps to collect surface water and prevent erosion.

If desired, the pegs and the ends of the risers can be covered with soil and reseeded: this may improve their appearance but will reduce the effective step width by at least 400 - 500mm.

If the ground falls away sharply to one side of the steps, possibly leading to loss of aggregate fill from the treads, a 250 x 50 board can be nailed to the side of the risers and fixed in place using 750 x 75 x 50 pegs.

• **Design Source and Contacts for Further Information**

Design Sources: Pennine Bridleway National Trail Design Guide published by the Countryside Agency.

Countryside Service, Environment Directorate, Northumberland County Council, County Hall,
Morpeth, Northumberland. NE61 2EF. Tel. 01670 533000.

• **User Notes : Design Modifications and Reference Information**

