Steps and Ramps

Countryside Service Design Standards (2024)

Many paths have steep sections and there may be limited opportunity to avoid this.

This sheet gives guidance; on some sites it may not be possible to build to these guidelines and so a compromise will be needed to find the best solution.

Responsibilities

The County Council is legally responsible for the surface of public rights of way, which includes steps and ramps. No steps are permitted across the width of rights of way classed as Bridleways, Restricted Byways or Byways Open to All Traffic (BOATs).

Steps or a Ramp?

Ramps can be used by nearly everyone: walkers, cyclists, horse-riders, wheelchairs and pushchairs. Therefore, where physically possible, a ramp should be installed in preference to steps, and existing steps replaced with ramps.

However, in many cases once a path is steep enough to be of concern the gradients are already above the maximum recommended for ramps. If there is not room for a zig-zag ramp then steps may be the only option, and indeed steps can significantly improve access for walkers. In addition, people who have mobility difficulties but are not wheelchair users usually prefer steps as they offer flat, horizontal surfaces to stand on rather than balancing on a slope.

Steps cannot normally be used on paths which are open to cyclists (or other wheeled vehicles) or horse-riders, unless there is a ramp beside them.

If installing a flight of steps, and site constraints allow, consider leaving a suitable clear area to the side of the steps to allow user to naturally traverse the slope. This will allow mobility scooter users and others to continue to use the path.

Ramp Design

- There are no legal requirement for ramps, so this section draws on best practice.
- The maximum gradient should be no more than 1:20, although steeper gradients up to 1:12 may be acceptable for short distances (less than 9.5m) if followed by a flat section (these provide valuable rest points for people with mobility difficulties).
- It is, however, recognised that many rights of way are steeper than this and as the line of the path is legally defined steeper gradients maybe unavoidable.
- Ramps should be at least 1.2m wide if on a path used by walkers only (e.g. footpaths) and at least 2.5m wide if on a path used by walkers, cyclists and horse-riders (e.g. bridleways). If the legal width of the path is less than this, and extra width cannot be arranged, then please contact us for advice.
- The ramp should be flat across its width (i.e. little or no crossfall) and have a firm, even surface.
- It may be possible to reduce the gradient by zig-zagging up the slope; any bends should be flat and maintain the ramp width. A bend radius of 1.5m will allow use by manual wheelchairs and a radius of 5m will accommodate larger motorised versions.
- If the ground drops away to one side of the ramp, a handrail should be considered and maintained (see overleaf). A retaining structures, such as revetment boarding, may also be needed to ensure the structural integrity of the ramp.
- Paths on slopes are often the line of least resistance for rain and surface water to drain from the surrounding land, which can cause erosion to the ramp surface unless it is diverted. Common solutions are grips to take water across the path and/or a ditch running alongside. See the Surfacing and Drainage guide for more details.

This guidance is suitable for most situations in Hampshire; for further advice email **prow@hants.gov.uk** or call **0300 555 1391**

Step Design

- There are no legal requirements for steps, so this section draws on best practice.
- The width, depth and height of steps will depend on the site, slope and whether a ramp is also being provided, and will require judgement on what is reasonable. Ideally, steps should be at least 1.2m wide (i.e. across the slope), a minimum of 500mm deep (i.e. in line of slope) and 150-225mm high.

Wooden Steps

- Round timber should not be used for the riser boards as people can slip more easily on the edges. If possible, order timber in the sizes needed or alternatively cut it to size off-site and treat the ends with endseal or similar.
- Pegs retaining the riser board should be driven in and made of timber or metal. When timber pegs are trimmed to the top of the step the exposed surface should be treated with endseal or similar to protect against water ingress. Square pegs can twist as they are driven into the ground, so round pegs may be easier.
- Timber pegs should be fixed to risers with corrosion-resistant screws or timberlocks.
- Steps should be cut into the slope rather than built on top of it.
- Fill in treads with stone and soil (from the excavation) initially and compact firmly. Where required, the top 50-100mm should be infilled with aggregate and finished with fine material (5mm to dust).
- In order to shed surface water (particularly important for steps), slight gradients are required in each tread—approx. 50mm fall over the depth of the tread and the same across it.
- If the ground falls away to one side, a board can be used along the side of the steps to retain the filling materials. A handrail should be considered.
- If there are over 12 steps and there is room, flights of steps should curve up the slope rather than being straight—this aids drainage and is less intimidating for walkers. They should also include regular deeper steps as rest places.

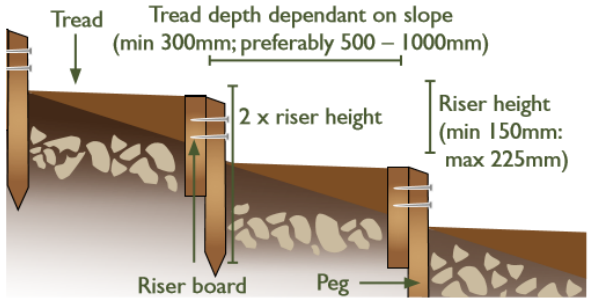
Components for each step:

1x timber riser board 1200mm x 300mm x 50mm

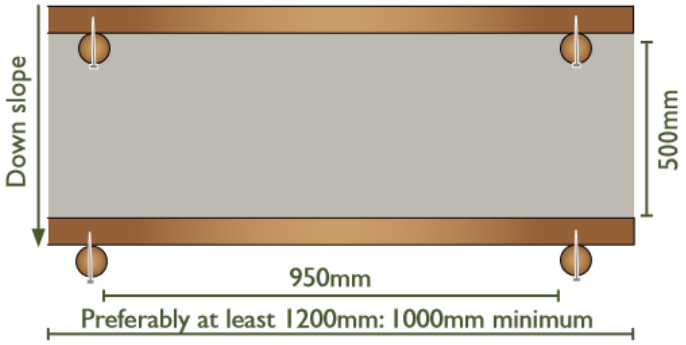
2x pegs timber or metal 600mm x 50mm diameter

4x corrosion-resistant screws (if timber pegs)

Materials to infill tread.

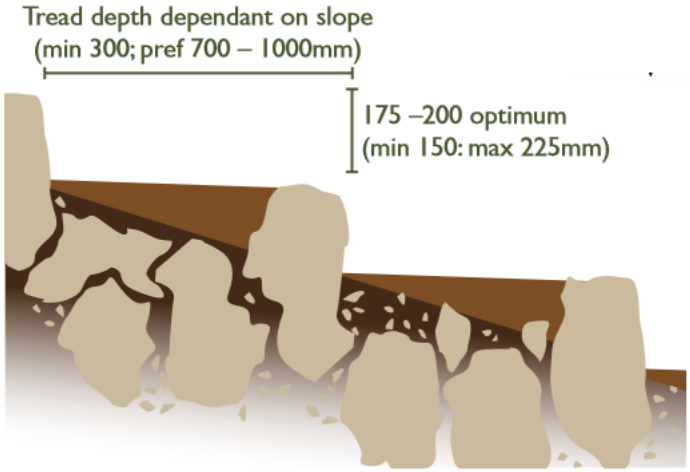


View from above



Stone Steps

For most places in Hampshire, timber steps are the most appropriate; occasionally stone may be available and if so steps may be constructed to the dimensions below:



Handrails

Handrails can significantly widen the range of people who are able to use steps and ramps and should be considered, particularly for well used or urban paths. However, a badly maintained handrail can easily be a hazard if it doesn't provide the expected support to the user. Therefore, provision must be made for regular maintenance if a handrail is installed.