

STEPS IN THE LANDSCAPE

THREAD AND RISER

Recommended Riser and Thread dimensions for landscape steps are as follows:

Riser	Thread
120	410
125	400
130	390
135	380
140	370
145	360
150	350

The riser refers to each of the vertical elements of a set of stairs. The thread refers to each of the horizontal elements of a set of stairs.

Box-up Note 1:

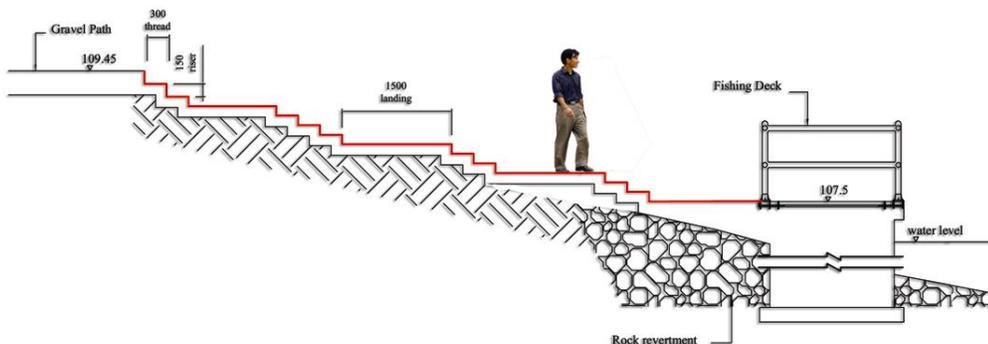
The formula for calculating riser and thread:
 $2 \times \text{Riser} + \text{Thread} = \text{approximately } 650\text{mm (one stride)}$

Box-up Note 2:

In a Building:
 The typical riser / thread dimension is 175/300
 $[2 \times 175 + 300 = 650]$
 This is not recommended for outdoor as the riser of 175 is too high for outdoor situation, where most users are traversing the horizontal plane and are therefore less psychologically prepared to deal with a high riser, as compared to going upwards in a building.

LANDINGS

When designing a flight of steps that bridge a vertical distance of more than an average person's height, it is further recommended to break the flight of steps with a landing or several landings. Landings should be of a length that is in multiples of 1500mm. This enables users to change their footsteps and make for a very user-friendly and comfortable staircase:



The multiple of 1500mm rule need not apply if the landing is more than 4500mm. This is because at this distance, user has sufficient time to adjust their strides comfortably before the next flight of steps. In such a case, it is more accurate to view this as a path with a series of steps built in rather than as a flight of steps with landing

Other useful tips:

- provide a minimum of two steps
- three steps are preferred to ensure clear legibility of the grade change
- providing alternate even and odd numbers of steps on both sides of a landing also enable users to vary between using alternate left or right foot to take the first step of each flight of stairs. This adds to user comfort.

Box-up Note 3:

Inconsistent riser dimension is very disconcerting for users as the change can be unsuspecting and in the worst case, can result in falls.



An unusually small step is often a trip hazard



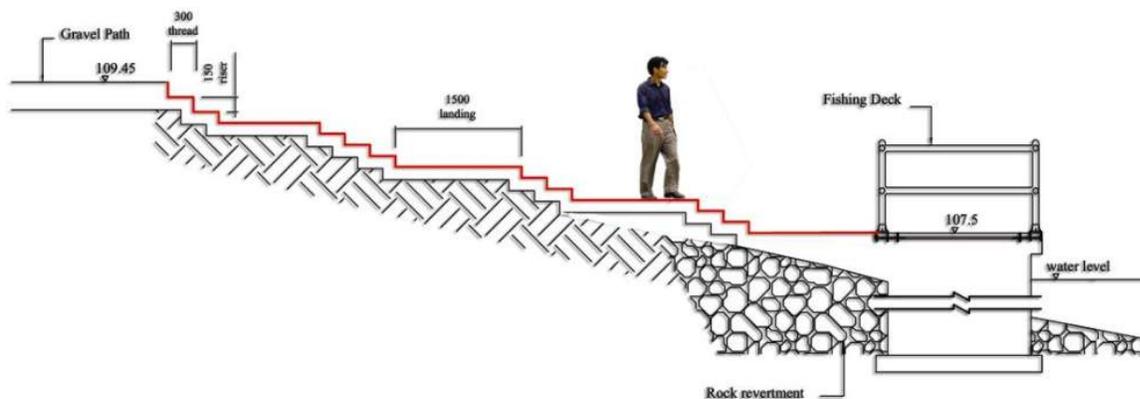
An irregular riser within a very long and consistent flight of steps can be especially disconcerting as it is totally unexpected.

CASE STUDY

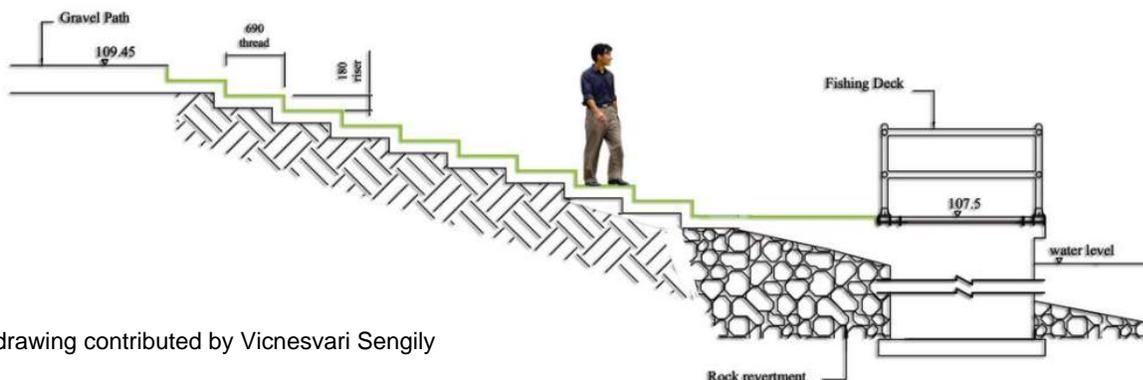
Bedok Reservoir Park Jetty



In this flight of steps, the designer simply spread out the threads evenly throughout the entire grade change, resulting in a series of non-ergonomic steps. They do not conform in dimension to the average human stride.



The same flight of steps could have been better designed with two landings inserted with adjustments to the threads:



drawing contributed by Vicsesvari Sengily

EXCEPTIONS

Exceptions are cases where the design of a set of stairs is deliberately challenging to cater to a sense of adventure, for example a flight of boulder steps in a nature or adventure park. However, elements along the main circulatory network of a nature or adventure park that caters to the majority of park visitors should still adhere to the guidelines above. In assessing when a more challenging flight of stairs is acceptable or not, the key is in managing visitor expectations. Hence, the location, the choice of material, the topography and the general atmosphere around the stairs are important factors of consideration.