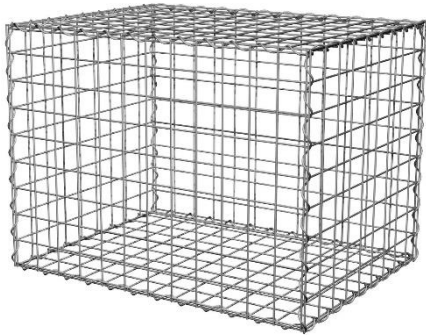


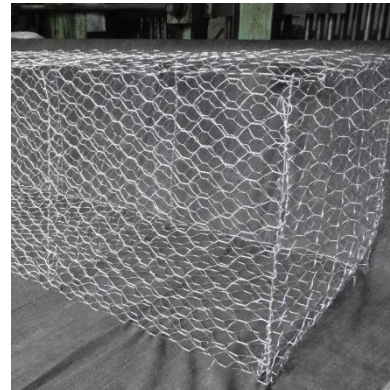
# GABIONS

## Gabion Basket Retaining Walls

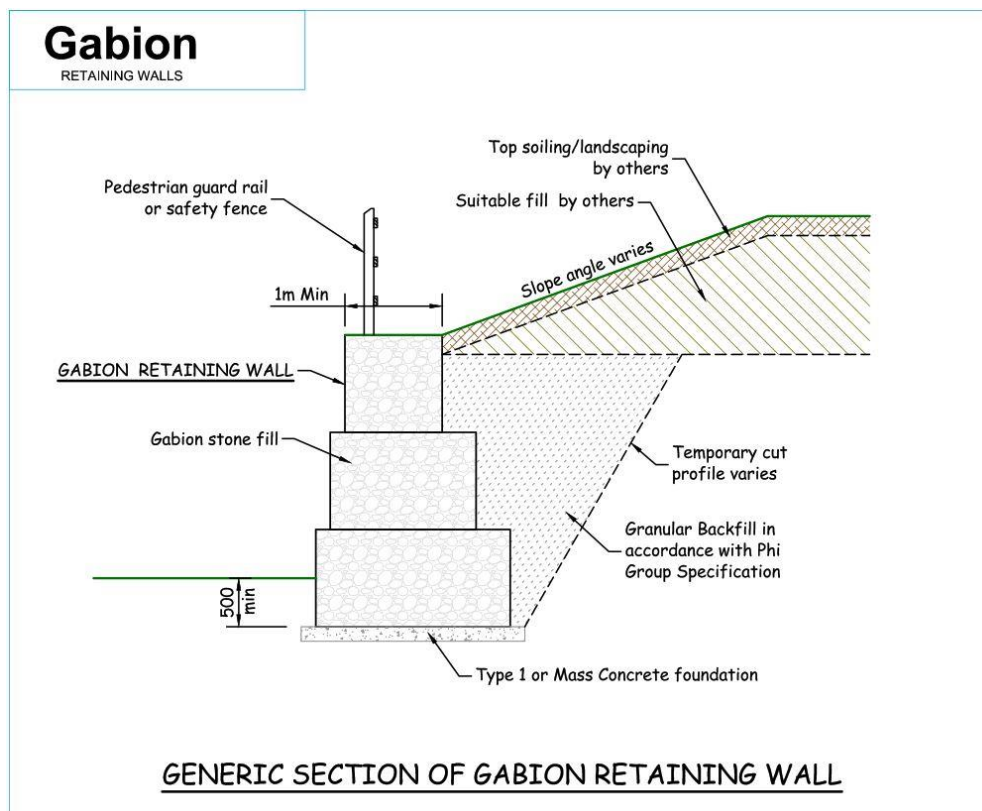
Gabion baskets are a cost effective to traditional retaining walls. There are two different types of gabions available, wither formed from woven wire mesh or the more rigid welded steel mesh panels. They are formed from 3, 4 or 5mm diameter steel mesh, depending on design life requirements and retained height. Typically the wire is protected with some form of galvanising, but can also be pvc coated for increased design life. Design life ranges form 50-120 years depending on wire diameter and protection. Whilst mainly used for retaining walls, the architectural appearance of gabion baskets widely see them used as a cladding system for buildings and free standing visual and acoustic barriers.



Welded Mesh Gabions



Woven Mesh Gabions



Gabion retaining walls consist of four main elements:

1. Type 1 or mass concrete foundation
2. Steel mesh gabion baskets
3. 6G Gabion stone infill material (150-200mm)
4. Granular backfill material

## Advantages:

### ● Cost

The cost of the supply and installation of a gabion basket retaining wall is largely dependent on the availability and cost of the infill stone, so there can be large regional cost differences. As the gabion infill stone larger than a crib wall infill, it is less dense and can therefore make gabion structure deeper than a crib wall would be. This is why the cost of the infill stone is key as there will be more required.

### ● Design

Phi Group will carry out a full design service in house using the specified gabion baskets, including the necessary 500mm embedment of the bottom basket. Our designs are limited to the internal design of the retaining structure including the consideration of overturning, sliding and bearing failure modes. Design information will be supplied to you for incorporation into an overall slope design which is to be the responsibility of you, or a suitably qualified Geotechnical Engineer.

The Gabion baskets are installed at a 6V:1H batter (80.5°), either by installing them on a batter, or as is more usual, vertically while introducing a 150mm step to each course to give you the required structure lean back. Various fencing can be accommodated to the top of the gabion wall by intruding void formers within the top basket. wall, and will be assessed during our design.

### ● Construction

Hand placing of the stone to the front face of the gabion baskets gives the them an aesthetically pleasing face finish. Depending on retained height and the depth of the gabion baskets required, 100m<sup>2</sup> face area built per week is easily achievable. Gabion baskets are usually installed off a 150mm Type 1 sub base foundation which offers a cost saving over a concrete foundation. There is also 500mm embedment of the bottom gabion basket, as is shown on the cross section. The welded mesh baskets have a more rigid front face so are easier to construct.

### ● Flexibility

Gabion baskets come in 0.5m and 1.0m increments, so the stepping of foundation and top of wall levels is easy to achieve.



## Typical Applications are:-

- Ideal for use in aquatic environments such as balancing ponds.
- Widely used across all sectors, including residential, schools, warehouse and logistic developments, commercial & hospital developments.
- Typically used in a cut situation, but can also be used when raising levels on site.

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