ROCK FILTER DAMS

WHAT IS THIS?

Rock filter dams are a robust Type 2 Sediment Control that can be used in flow paths. They function by ponding water upslope of the dam wall, which is made from rocks wrapped in geotextile (Figure 23). Coarse particles are trapped and settled in the pond, with some filtration of coarse particles by the geotextile cloth. Rock filter dams can be used where higher runoff velocity is expected than where sheet flow controls are used, however, they need particular maintenance attention.

WHAT DO I NEED TO DO?

Before starting site works:

- Determine the size of the catchment to be directed to the rock filter dam and ensure the rock filter dam is designed in accordance with the Rock Filter Dams factsheet (IECA Book 4 Design Factsheets, 2010). Table 3 indicates standard dam sizing for catchment areas up to 0.5 hectares (5,000m^2).
- A rock filter dam should have a length that is at least three times its width. If this cannot be achieved (i.e. you have a square pond), the ponding area should be increased by 20%.
- Include the function and maintenance of rock filter dams in all site inductions.

Installing the controls:

- Install the rock filter dam as per your approved design and ESCP (see page 17).
- Construct the spillway to convey potential rain events in excess of the design event.
- Use armour rock that is well graded, hard, angular, and erosion resistant with a mean size of at least 225mm diameter.
- Use heavy-duty geotextile fabric minimum 'bidim' A34 or equivalent to line the bottom, filter layer, and crest of the spillway.
- Install a marker post with a maximum level indicating when sediment removal is required.
- Remove any organic matter and debris from the area (DO NOT mix into armour rock).
- Where soils are dispersive (see page 36), ensure these are stabilised prior to the installation of the rock filter dam.

Table 3: Standard rock filter dam sizing for catchment areas up to 0.5 hectares.

Maximum catchment area (m^2)	1000	2500	5000*
Minimum ponding surface area (m^2)	2	5	10
Minimum ponding depth (m)	0.5	0.5	0.5

*For catchments over 2,500m^2 construction of a sediment basin is preferred.

Maintaining the controls:

- Inspect the rock filter dam prior to forecast rain and after any rain events.
- Check the structure and downstream channel banks for damage and make repairs as necessary.
- Use the installed marker post to determine when sediment removal is required; remove sediment and restore original storage volume when collected sediment exceeds 10% of the storage volume.
- Dispose of sediment correctly – DO NOT create an erosion or pollution hazard.
- Remove the rock filter dam at the end of the project and dispose of geotextile appropriately.
- Once cleaned of sediment the rocks may be re-used on-site or stored for rock filter dams for your next project.

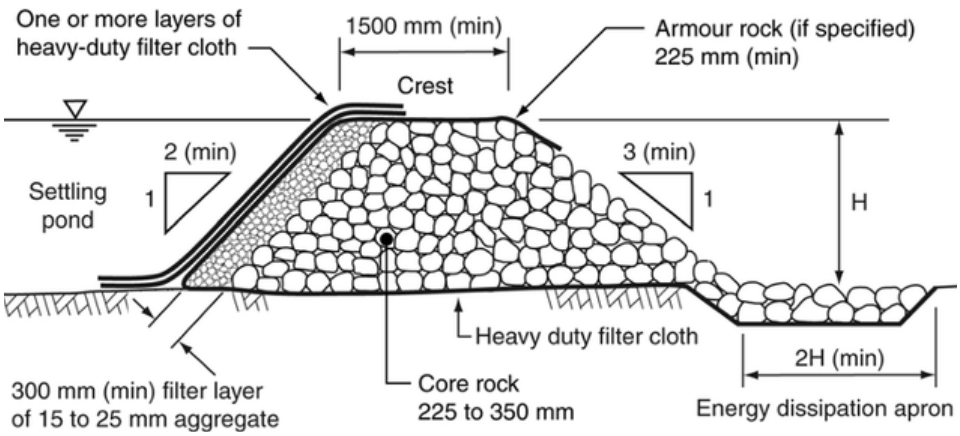

Figure 23: Example of a rock filter dam lined with geotextile fabric. Several overlapping geotextile layers may be used, thus allowing each layer to be removed individually once the fabric becomes clogged with sediment and loses its filtering capacity. *Figure from Catchments and Creeks Pty Ltd.*